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The March *Review*

One of the most striking features of today's labor market as it compares to the labor market of the mid-1970s is the fact that today's young women are expected to be much more deeply involved in market work and to combine that work with family responsibilities. As Marisa DiNatale and Stephanie Boraas report, about three-quarters of today's 25-to 34-year-old women participate in the labor force, compared with about half in the mid-70s. These women also work more weeks of the year and more hours per week. Married women aged 25 to 34, say DiNatale and Boraas, are far more likely to be in the labor force than were their counterparts of 25 years ago.

William Gullickson and Michael J. Harper update us on the research the Bureau of Labor Statistics is carrying out to overcome some of the difficulties that occur in measuring aggregate productivity. In general, the recent surge in measures of aggregate productivity has made the possible bias in such measures less clearly evident, but there are still anomalies such as negative multifactor productivity growth in some industries. Measurement issues remain particularly difficult on the output side of some service industries.

The high-technology manufacturing sector—however defined—has enjoyed superior productivity performance, according to the analysis of Christopher Kask and Edward Sieber. Between 1987 and 1999, they report, labor productivity in high-tech manufacturing increased at almost 3 times the reasonably strong rate recorded by the manufacturing sector as a whole.

Todd Wilson contributes the annual summary of consumer price developments for 2001. The overall Consumer Price Index rose 1.6 percent in 2001—less than half the increase recorded in 2000. The commodities sub-index actually fell for the first time since 1986, but there were higher prices for many types of services such as rents and medical care.

States and unemployment

As the Nation moved into a recession in 2001, most States experienced rising unemployment rates. Compared with 2000, jobless rates in 2001 were higher in 42 States and the District of Columbia, lower in 7 States, and unchanged in 1 State. This was the first time since 1992 that annual average unemployment rates rose in more than half the States.

Eighteen States reported rate increases of 1.0 percentage point or more. Of these 18 States, 6 were located in the Midwest, 5 each were in the South and West, and 2 were in the Northeast. North Carolina had the largest increase (+1.9 percentage points), followed by Michigan (+1.7 points) and South Carolina (+1.5 points).

The highest unemployment rates for 2001 were in the Pacific Northwest. Washington, Oregon, and Alaska all had jobless rates in excess of 6 percent. North Dakota had the lowest rate at 2.8 percent and was the only State with an unemployment rate lower than 3 percent. To learn more about annual average unemployment by State, see "State and Regional Unemployment, 2001 Annual Averages," news release USDL 02–97.

Productivity and costs

Productivity in the nonfarm business sector, as measured by output per hour, rose 1.8 percent in 2001, according to preliminary estimates released in February. Unit labor costs in manufacturing grew 6.2 percent in 2001. The rise in unit labor costs in 2001 was the result of a 7.3-percent increase in hourly compensation only slightly offset by a 1.0-percent increase in labor productivity. (These data are subject to revision.) Unit labor costs—the cost of the labor input required to produce one unit of output—are computed by dividing labor costs in nominal terms by real output. Unit labor costs can also, however, be expressed as the ratio of hourly compensation to labor productivity.

September 11 and layoffs

Reports for the weeks ended September 15 through December 29, 2001, show that there were 408 extended mass layoff events during that period that were directly or indirectly attributed to the attacks of September 11, 2001. These layoffs involved 114,711 workers. Among the workers laid off because of the terrorist attacks, 39 percent, or 44,756 workers, had been employed in the scheduled air transportation industry. An additional 28 percent, or 32,044 workers, had been employed in hotels and motels

Thirty-three States reported extended mass layoff activity related in some way to the September 11 incidents. Fifty-four percent of the layoff events and 56 percent of the separations occurred in just five States—California, Nevada, Illinois, New York, and Texas. "Extended mass layoffs" last more than 30 days and involve 50 or more individuals from a single establishment filing initial claims for unemployment insurance during a consecutive 5-week period. Additional information is available in "Extended Mass Layoffs in the Fourth Quarter of 2001," news release USDL 02–79.

Chartbook on-line

Working in the 21st Century, a book of charts and related information about subjects ranging from education levels to retirement plans, is now available at the Bureau of Labor Statistics Web site: **http://www.bls.gov/opub/working/home.htm** □

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The labor force experience of women from 'Generation X'

Women aged 25 to 34 years in 2000 participated in the labor force in greater proportions, were more educated, earned more, and generally enjoyed more labor market benefits than their counterparts 25 years earlier; moreover, the "earnings gap" between young women and men narrowed substantially over the period

Marisa DiNatale and Stephanie Boraas

During the 1960s and 1970s, legislation and changing social mores dramatically altered the choices young women had about their futures. Girls growing up during this period were influenced both by the conventions of their parents' generation and by the new opportunities that were becoming available to them. In contrast, girls born in later years grew up in an era in which women often were expected to combine market work[1] with family responsibilities. Consequently, women who were aged 25 to 34 years in 2000 had a markedly different relationship to the labor market than did their counterparts in 1975.

The first part of this article focuses on the major demographic and labor market indicators that are used to describe young women. These indicators will be used to see how the group and its relationship to the labor market has changed over the past quarter century. The second part focuses on issues facing young women in the labor market today.[2]

The highlights include the following:

- About three-quarters of women aged 25 to 34 years participated in the labor force in the year 2000, compared with a little more than half in 1975.
- Young women today are more highly educated than were their counterparts in 1975; in 2000, 30 percent of women aged 25 to 34 years had completed 4 or more years of college, compared with 18 percent 25 years earlier.
- Young women have substantially closed the "earnings gap" with their male counterparts since 1979 (the first year for which comparable earnings data are available from the CPS). They earned 82 percent as much as young men in 2000 for full-time work, compared with 68 percent in 1979.
- Married women aged 25 to 34 years—particularly those who had children—were far more likely to be in the labor force in 2000 than 25 years earlier.
- Young women were working more hours and more weeks out of the year in 1999 than were their counterparts 25 years ago; black women were more likely than either white or Hispanic women to work full time and year round.
- Nearly one million women aged 25 to 34 were displaced from a job between January 1997 and December 1999; when surveyed in February 2000, displaced young women were more than 4 times as likely as their male counterparts to have left the labor force.
- The vast majority (83 percent) of employed women aged 25 to 34 had health insurance

Marisa DiNatale and Stephanie Boraas are economists in the Division of Labor Force Statistics, Bureau of Labor Statistics.

Table 1. Selected characteristics of women and men aged 25 to 34, March 1975 and 2000

Characteristic	Women		Men	
	1975	2000	1975	2000
Civilian noninstitutional population, aged 25 to 34, total (in thousands)	15,316	19,188	14,366	18,310
Race and Hispanic origin[1]				
White	86.6	79.0	88.7	81.6
Black	11.3	14.9	9.3	12.4
Hispanic origin	5.4	14.6	5.1	15.4
Education[2]				
Less than four years of high school or less than a high school diploma	20.2	10.9	17.9	13.0
Four years of high school, no college or high school diploma, no college	45.9	28.9	36.9	32.4
1 to 3 years of college or some college or associates degree	16.3	30.3	19.6	25.9
4 or more years of college or college degree	17.6	29.9	25.6	28.7
Marital status[3]				
Married, spouse present	76.3	57.0	74.6	49.5
Unmarried, total	23.7	43.0	25.4	50.5
Never married	10.8	30.2	17.1	41.0
Other marital status	12.9	12.8	8.2	9.5
Divorced	6.8	7.7	4.6	5.7
Separated	5.5	4.7	3.5	3.6
Widowed	.7	.4	.1	.1
Presence and age of children				
With children under age18	76.0	59.8	–	38.8
With children ages 6 to 17, none younger	23.3	18.2	–	7.8
With children under age 6	52.6	41.7	–	31.0
Under age 3	27.6	25.1	–	21.1
With no children under age 18	24.0	40.2	–	61.2

[1] Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics may be included in either the white or black population groups.

[2] Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed."

[3] Marital status data for men in 1975 is for the total population and includes members of the Armed Forces.

NOTE: Data from 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Dashes indicate data not available.

coverage in February 2001; about 60 percent of women in this age group received coverage through their employers.

Indicators of change

As a group, women who were aged 25 to 34 years in 2000 differed in a number of their demographic and labor force characteristics from their counterparts 25 years earlier. The subsections that follow describe some of these differences.

Educational attainment. The level of education among women aged 25 to 34 improved dramatically between 1975 and 2000. In those 25 years, the share of women in this age group who had completed at least 4 years of college rose from 18 to 30 percent. At the same time, the share of men with that level of education only edged up 3 percentage points to 29 percent. Over the same period, the proportion of young women who had dropped out of high school fell from 20 percent to 11 percent. (See table 1.)

While white women continued to have the most schooling among the three major race-ethnic groups in 2000, black women made large strides in educational attainment over this period. In 1975, 32 percent of black women aged 25 to 34 had completed fewer than 4 years of high school, and just 10 percent had completed 4 or more years of college. In 2000, by

Table 2. Labor force participation of women and men aged 25 to 34 by selected demographic characteristics, March 1975 and 2000

(Numbers in thousands)

Characteristic	Women				Men			
	Number		Participation rate		Number		Participation rate	
	2000	1975	2000	1975	2000	1975	2000	1975
Civilian labor force, aged 25 to 34	8,304	14,787	54.2	77.1	13,692	17,091	95.3	93.3
Race and Hispanic origin[1]								
White	7,054	11,622	53.2	76.7	12,219	14,097	95.9	94.4
Black	1,083	2,298	62.8	80.6	1,216	1,984	91.2	87.7
Hispanic origin	384	1,784	46.6	63.6	686	2,658	94.1	94.1
Education[2]								
Less than 4 years of high school or less than a high school diploma	1,260	1,141	40.8	54.7	2,371	2,053	92.3	86.0
4 years of high school, no college or high school diploma, no college	3,753	4,124	53.3	74.3	5,155	5,559	97.2	93.7
1 to 3 years of college or some college or associates degree	1,434	4,592	57.5	79.0	2,638	4,474	93.8	94.3
4 or more years of college or college degree	1,858	4,930	68.9	85.9	3,528	5,005	96.0	95.4
Marital status								
Married, spouse present	5,648	7,788	48.3	71.2	10,365	8,765	97.3	96.7
Unmarried, total	2,656	6,999	73.3	84.9	3,327	8,326	89.7	90.0
Never married	1,325	4,918	80.4	84.9	2,213	6,704	88.2	89.3
Other marital status	1,331	2,080	67.4	84.7	1,114	1,623	92.7	93.4
Divorced	796	1,295	76.8	87.7	626	991	92.7	94.4
Separated	486	734	57.9	81.7	471	612	92.8	92.2
Widowed	49	51	48.5	63.7	18	20	91.2	84.3
Presence and age of children								
With children under age 18	5,281	8,054	45.4	70.1	–	6,855	–	96.5
With children aged 6 to 17, none younger	2,147	2,739	60.0	78.4	–	1,352	–	94.6
With children under age 6	3,134	5,315	38.9	66.5	–	5,504	–	96.9
Under age 3	1,402	3,024	33.2	62.7	–	3,752	–	97.2
With no children under age 18	3,023	6,733	82.2	87.4	–	10,236	–	91.4

[1] Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics may be included in either the white or black population groups. Since 1992, data on educational attainment have

[2] Since 1992, data on educational attainment have been based on the "highest diploma or degree received," rather than the "number of years of school completed."

NOTE: Data from 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Labor force and participation rates are for the civilian population. Dashes indicate data not available.

contrast, just 13 percent of black women in this age group did not have a high school diploma, and 17 percent had college degrees. Among young Hispanic women in 2000, however, a relatively high proportion (36 percent) had not completed high school. (This compares with about half in 1975.) About 11 percent had college degrees. More than half (55 percent) of the young Hispanic women living in the United States in 2000 were foreign born, and these immigrants typically have less education than their U.S.-born counterparts. In fact, half the foreign-born Hispanic women of this age group had not completed high school (compared with 19 percent of those born in the United States), and only 9 percent had a Bachelor's degree or more (compared with 17 percent of those born in the United States).

The advances in educational attainment among young women during the 25-year period were much sharper than those of their male counterparts. In 1975, the proportion of men with a college education exceeded that of women by a considerable margin. By 2000 however, the proportions with college degrees were about equal, and, in the case of whites and Hispanics, the women were somewhat more likely to be college graduates than were the men.

Marital status and motherhood. Over the 1975–2000 period, trends in marriage and family formation changed considerably.[3] For example, women aged 25 to 34 years in 2000 were

less likely to be married than their counterparts 25 years earlier and less likely to be mothers. In 1975, more than 3 out of 4 women in this age group were married; by 2000, the proportion had dropped to 3 out of 5. Additionally, in 1975, just 11 percent had never married; this proportion had nearly tripled to 30 percent in 2000.

The changing marital status of women also impacted family formation. In 1975, 76 percent of women in the 25- to 34-year age group had children; this figure had declined to 60 percent by 2000. Also, as the average age of childbearing rose, women aged 25 to 34 were far less likely to have older children, but they were nearly as likely to have children under age 3 as were their counterparts a generation earlier.

Labor force characteristics. Since 1975, the labor force participation rate—the proportion of the population that is either working or actively looking for work—of women aged 25 to 34 years has increased by about 20 percentage points. White women had the largest increase in participation, although black and Hispanic women also showed large gains. In contrast, the labor force participation rate for men in the same age group drifted down, from 95 to 93 percent, with the decline far larger for black men than for whites. (See table 2.) The growing labor force participation rate of women is related to a number of factors, but perhaps the two that have had the greatest impact are the increasing rates of educational attainment among women and the lower propensity to marry among women aged 25 to 34. In 1975, the median age at first marriage for women was 21.1 years; in 1998, it was 25.0 years.[4]

Women's labor force participation rates are strongly correlated with levels of educational attainment. In 2000, 86 percent of women in the 25- to 34-year age group with college degrees were in the labor force, compared with only 55 percent of those with less than a high school diploma, a difference of about 31 percentage points. Men's participation rates also were closely correlated with education levels, but the difference between those with a college degree and those with less than a high school diploma was less pronounced—about 95 percent of young adult men with college degrees were in the labor force, compared with 86 percent of those with less than a high school education, a difference of only 9 percentage points.

Occupations. Women aged 25 to 34 work in virtually every occupation, but they are more heavily represented in some occupations than others. (See table 3.) Due to a change in the way occupations were classified in the CPS, comparable data are available only to 1983. It is still useful to examine them to look for any trends that may have emerged over the past couple decades.

Since 1983, women have made headway into the higher-paying executive, administrative, and managerial occupations, and professional specialty occupations. They also have become more likely to work in sales and service occupations. While the latter tend to be lower-paying jobs, men aged 25 to 34 years also are increasingly likely to work in these occupations.

Women made up 46 percent of all employed 25- to 34-year-olds in 2000 and 44 percent in 1983. They made up about 80 percent of all workers in this age group in administrative support (clerical) jobs in both years. Women also were more concentrated in service occupations in 2000 than they were in 1983. They accounted for about 65 percent of the total in service occupations in 2000 and 59 percent in 1983. (See table 4.) In contrast, women continued to represent a smaller portion of employed 25- to 34-year-olds in manufacturing-related occupations such as precision production, craft and repair, where they made up only about 8 percent of workers in both years.

Among young workers in executive/managerial, professional, and technical occupations overall, about half were women in 2000. While the proportions of young women in professional specialty and technical occupations were about

Table 3. Employed women and men aged 25 to 34 years by major occupation, annual averages, 1983 and 2000

Occupation	Women		Men	
	1983	2000	1983	2000
Total employed				
Number (in thousands)	12,540	14,006	16,216	16,494
Percent	100.0	100.0	100.0	100.0
Executives, administrators, and managers	9.2	15.5	11.4	12.8
Professional specialty workers	18.5	20.5	13.0	14.7
Technicians and related support workers	4.7	4.4	3.9	3.5
Sales workers	9.9	11.5	10.5	10.8
Administrative support, including clerical workers	30.2	22.6	5.9	5.8
Service workers	14.9	16.3	8.0	9.9
Precision production, craft, and repair workers	2.5	2.0	22.2	19.6
Operators, fabricators, and laborers	9.1	6.4	20.7	19.7
Farming, forestry, and fishing workers	1.0	0.8	4.3	3.2

Table 4. Employed persons aged 25 to 34 by major occupation, sex, race, and Hispanic origin, 2000 annual averages

(Numbers are in thousands)

Occupation	Total employed	Percent women			
		Total	White	Black	Hispanic
Total, aged 25 to 34	30,501	45.9	36.2	7.1	5.6
Executive, administrative, and managerial occupations	4,281	50.6	41.9	5.7	4.1
Professional specialty occupations	5,300	54.2	44.0	5.9	3.3
Technicians and related support occupations	1,196	51.8	41.6	7.4	5.2
Sales occupations	3,386	47.4	38.4	6.4	5.3
Administrative support occupations, including clerical	4,129	76.8	60.0	13.5	10.0
Private household occupations	118	94.1	80.5	11.0	42.4
Protective service occupations	632	16.6	10.1	6.0	1.3
Service occupations, excluding protective and household	3,157	65.3	48.4	13.9	10.8
Precision production, craft and repair occupations	3,514	8.1	6.3	1.1	1.6
Machine operators, assemblers and inspectors	1,743	34.0	24.7	6.0	9.2
Transportation and material moving occupations	1,235	8.9	5.3	3.3	1.0
Handlers, equipment cleaners,helpers,laborers	1,176	16.8	11.7	4.4	4.2
Farming, forestry and fishing occupations	634	17.4	16.6	0.5	5.5

NOTE: Detail for the race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

the same in 1983, there was a considerable movement of women into executive, administrative, and managerial occupations over the period. Young women made up only about 38 percent of total employment in this age group and occupation in 1983. By 2000, the percentage had increased to 51 percent.

Nonetheless, it should be noted that, within these broad groups, women continued to be concentrated in some fairly traditional "women's" occupations. For instance, in 2000, women 16 years and older made up about 99 percent of kindergarten and preschool teachers, 85 percent of librarians, and 84 percent of legal assistants. These proportions were roughly the same in 1983. In contrast, women overall are still underrepresented in some professional occupations, although they have made substantial inroads. For example, women have about doubled their proportions among lawyers and engineers since 1983—to about 30 and 10 percent, respectively—and those proportions are even higher among younger cohorts.

While women made up more than half of the 25- to 34-year-olds employed in managerial and professional specialty occupations in 2000, relatively small proportions of young black and Hispanic women were represented in these occupations. Black women made up about 6 percent of total employment in both executive, administrative, and managerial occupations and professional specialty occupations, while Hispanic women represented just 4 percent of executive and managerial jobs, and only 3 percent of professional jobs. In 1983, however, the corresponding figures for black and Hispanic women were even lower.

Earnings. In 1979 (the first year for which comparable data were available), median usual weekly earnings of full-time wage and salary workers aged 25 to 34 were $440 for women and $653 for men (in 2000 inflation-adjusted dollars). During the 1980s and early 1990s, inflation-adjusted earnings of women in this group increased slowly, while those of their male counterparts decreased relatively rapidly. (See chart 1.) Since about 1993 however, changes in the earnings of men and women have generally been of similar size and in the same direction. Despite the upturn in earnings that occurred for both men and women during the 1990s, men's earnings ($603 in 2000) remained below their inflation-adjusted 1979 level, while women's earnings ($493) rose. As a result of these movements, young women in 2000 earned approximately 82 percent as much as their male counterparts, compared with 67 percent in 1979.

The shrinking earnings gap has many causes, including young women moving into higher-paying occupations, their shift toward year-round work, their increasing educational attainment, and reduced incidences of gaps in their labor force participation. These factors likely led to a rise in the real earnings of young women at the same time that young men were experiencing declines.

Marital status and motherhood. Never-married women and divorced women had the highest labor force participation rates among 25- to 34-year-old women in both 1975 and 2000. Since 1975, however, the gap between these nonmarried women's participation rates and those for married women has narrowed substantially. During that period, the rate for never-married women changed little and that for divorced women grew by about 11 percentage points. In contrast, the participation rate for married women (spouse present) jumped by about 23 percentage points. (See table 2.)

In both 1975 and 2000, women aged 25 to 34 who had no

Definition of contingent workers and alternative work arrangements

Contingent workers

These workers were defined as those who do not have an explicit or implicit contract for long-term employment. To assess the impact of altering some of the defining factors on the estimated size of the contingent workforce, three measures of contingent employment were developed as follows:

Estimate 1. This is the narrowest, measures contingent workers as wage and salary workers who indicated that they expected to work in their current job for 1 year or less and who had worked for their current employer for 1 year or less. Self-employed workers, both incorporated and unincorporated, and independent contractors are excluded from the count of contingent workers under estimate 1; the rationale was that people who work for themselves, by definition, have ongoing employment arrangements, although they may face financial risks. Individuals who worked for temporary help agencies or contract companies are considered contingent under estimate 1 only if they expect their employment arrangement with the temporary help or contract company to last for 1 year of less and they had worked for that company for 1 year of less.

Estimate 2. This estimate expands the measure of the contingent work force by including the self employed—both the incorporated and unincorporated—and independent contractors who expect to be, and had been, in such employment arrangements for 1 year or less. In addition, temporary help and contract company workers are classified as contingent under estimate 2 fi they had worked and expected to work for the customers to whom they were assigned for 1 year or less. For example, a "temp" secretary who is sent to a different customer each week but has worked for the same temporary help firm for more than 1 year and expects to be able to continue with that firm indefinitely is contingent under estimate 2, but not under estimate 1. In contrast, a "temp" who is assigned to a single client for more than a year and expects to be able to stay with that client for more than a year is not counted as contingent under either estimate.

Estimate 3. This estimate expands the count of contingency by removing the 1-year requirement on both expected duration of the job and current tenure for wage and salary workers. Thus, the estimate effectively includes all the wage and salary workers who do not expect their employment to last, except for those who, for personal reasons, expect to leave jobs that they would otherwise be able to keep. Thus, a worker who had held a job for 5 years could be considered contingent if he or she now viewed the job as temporary. These conditions on expected and current tenure are not relaxed for the self employed and independent contractors, because they were asked different set of questions from wage and salary workers.

Alternative work arrangement.

The Bureau of Labor Statistics defines four types of alternative work arrangements:

Independent contractors: These include consultants, freelance workers, and independent contractors, regardless of whether or not they are wage and salary workers or self employed.

On-call workers: These include persons who are called into work only when they are needed.

Temporary help agency workers: These include workers who are paid by a temporary help agency but work temporarily at a client site.

Contract company workers: These workers are employees of a contract company who usually work for only one customer and at that customer's work site.

children under 18 were considerably more likely to be in the labor force than those who were mothers. However, while the participation rate for childless women changed little over this period, the rate for those with children under age 18 grew by about 25 percentage points to 70 percent in 2000. In fact, the labor force participation rate for those with children under three years almost doubled over the period, growing from 33 percent in 1975 to 63 percent in 2000.

While women with children were less likely to be labor force participants than those without children, the reverse was true for men—those with children were somewhat more likely to be in the labor force than those without. Although labor force participation rates for women with children grew rapidly between 1975 and 2000, they still remain well below those of men with children, suggesting that raising children continues to have a greater impact on the working lives of mothers than on those of fathers.

Table 5. Women aged 25 to 34 with work experience in 1975 and 1999 by race, Hispanic origin, and marital status, March 2000 status, March 2000 CPS

Race, Hispanic origin, and marital status	1975					1999				
		Percent with work experience					Percent with work experience			
	Total with work experience (in thousands)	Usually worked full time			Usually worked full time[1]	Total with work experience (in thousands)	Usually worked full time			Usually worked full time[1]
		As percent of population	Total[1]	50–52 weeks			As percent of population	Total[1]	50–52 weeks	
Total, all races	10,141	63.9	74.3	45.5	25.7	15,517	80.9	80.3	62.9	19.7
Married, spouse present	6,936	58.4	68.8	38.3	31.2	8,372	76.5	75.7	57.6	24.3
Unmarried, total	3,205	80.2	86.3	61.2	13.7	7,146	86.6	85.7	69.2	14.3
Married spouse absent	91	73.4	79.1	44.0	20.9	220	82.1	85.0	60.0	15.0
Widowed	65	59.1	84.6	46.2	15.4	51	63.0	76.5	60.8	23.5
Divorced	1,013	81.5	87.0	59.3	12.9	1,319	89.3	86.2	70.4	13.8
Separated	483	66.9	79.1	55.1	20.7	512	81.3	86.6	65.4	13.3
Never married	1,553	86.4	88.6	68.8	11.5	5,044	87.1	85.7	69.7	14.3
White, total	8,634	62.9	72.3	44.2	27.7	12,234	80.8	78.9	61.9	21.1
Married, spouse present	6,170	57.3	66.8	37.0	33.3	7,188	76.5	74.1	56.2	25.9
Unmarried, total	2,463	83.2	86.4	62.3	13.6	5,046	87.7	85.7	69.9	14.3
Married spouse absent	67	72.0	77.6	41.8	22.4	156	83.9	82.7	57.7	17.3
Widowed	46	59.7	89.1	54.3	10.9	33	57.9	69.7	57.6	30.3
Divorced	849	81.6	87.3	58.5	12.7	1,086	89.2	86.1	71.4	13.9
Separated	296	70.3	77.0	43.2	23.0	342	79.4	86.5	63.7	13.5
Never married	1,205	90.5	88.4	71.1	11.6	3,429	88.8	85.7	70.7	14.3
Black, total	1,267	70.4	85.6	53.0	14.4	2,387	83.8	86.9	70.0	13.1
Married, spouse present	615	71.6	86.2	50.4	13.8	725	82.7	86.6	73.0	13.1
Unmarried, total	652	69.4	85.0	55.4	15.0	1,662	84.3	87.0	68.7	13.0
Married spouse absent	22	78.6	86.4	50.0	13.6	37	75.5	91.7	59.5	10.8
Widowed	17	56.7	70.6	23.5	29.4	18	78.3	88.9	66.7	11.1
Divorced	149	79.3	85.9	61.7	14.1	181	88.3	87.8	66.9	12.2
Separated	179	60.9	74.4	46.2	15.6	153	86.0	89.5	71.9	10.5
Never married	285	71.3	86.7	56.8	13.3	1,273	83.9	86.5	68.9	13.5
Hispanic origin, total	–	–	–	–	–	1,844	65.7	82.2	60.0	17.8
Married, spouse present	–	–	–	–	–	1,038	60.2	80.3	55.4	19.7
Unmarried, total	–	–	–	–	–	806	74.5	84.6	66.0	15.3
Married spouse absent	–	–	–	–	–	43	71.7	83.7	67.4	16.3
Widowed	–	–	–	–	–	11	64.7	90.9	54.5	9.1
Divorced	–	–	–	–	–	109	77.9	87.2	62.4	12.8
Separated	–	–	–	–	–	94	65.3	86.2	59.6	12.8
Never married	–	–	–	–	–	549	76.1	83.7	67.9	16.2

[1]Percents may not sum to 100 due to rounding.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Dashes indicate data not available

Table 6. Multiple jobholders by age and sex, May 1975 and May 2001

Age and sex	May 1975			May 2001		
	Multiple jobholders			Multiple jobholders		
	Total employed	Number	Percent of employed	Total employed	Number	Percent of employed
Women 25 to 34 years	7,574	248	3.3	13,680	781	5.7
Men 25 to 34 years	12,798	850	6.6	16,215	901	5.6

Unemployment. In 2000, the unemployment rate for women aged 25 to 34 was little different from that of men, 4.0 percent compared with 3.4 percent; both rates were at their lowest points in 25 years. (See chart 2.) A quarter of a century earlier, however, the women's rate exceeded the men's by a little more than 2 percentage points. The gap virtually disappeared in 1980 when the men's rate shot up in response to a short but sharp recession, while the women's rate increased less rapidly. The gap has remained quite narrow ever since, although the rate for men tends to increase more sharply during recessionary periods than the rate for women.

In terms of employment, economic downturns typically have a greater impact on men than women because men are more likely to work in industries such as manufacturing and construction that are highly sensitive to changes in the business cycle. Women, on the other hand, tend to work in industries such as services and government, which are less responsive to business cycles. Consequently, the swings that are evident in the unemployment rate for men are more muted in the rate for women.

Work schedules. Young women worked more throughout the year in 1999 than in 1975.[5] Table 5 shows that 81 percent of women aged 25 to 34 worked at some time during 1999, compared with 64 percent in 1975. Moreover, of those with such work experience, about 63 percent worked full time and year round[6] in 1999, compared with less than half (46 percent) in 1975.

Average weekly hours for young women working in nonagricultural industries increased by 2.5 hours over the period, rising from 35.4 in 1976 to 37.9 in 2000, while men's average weekly hours grew only slightly, from 43.2 hours in 1976 to 43.9 hours in 2000. The increase in average hours worked by young women resulted not only from an increase in the number working full time, but also from a decrease in the proportion with short workweeks and an increase in the proportion with very long workweeks. In 1976, only about 7 percent of young women worked 49 hours or more per week, and 21 percent worked fewer than 30 hours. By 2000, the proportion working very long workweeks had nearly doubled to 13 percent, while the proportion working less than 30 hours per week decreased to 17 percent.

Among the race-ethnic groups, black women were more likely to work full time and year round than were white women: about 70 percent of the young black women with work experience in 1999 worked year round, full time, compared with 62 percent for their white counterparts. The comparable proportion for Hispanic women was 60 percent. In 1975, the proportions were 53 percent for black women and 44 percent for white women.

Multiple jobholding. Women aged 25 to 34 years were more likely to hold two or more jobs in 2001 than in 1975. About 6 percent of all employed women in May 2001 held more than one job, compared with 3 percent 25 years earlier. (See table 6.) Interestingly, the multiple jobholding rate for men in the same age group was lower in 2001 than in 1975. As a result, although men were twice as likely as women to hold more than one job in 1975, there was little difference in their proportions in 2000.

Current labor market issues

Throughout the 1980s and 1990s, additional measures of such labor force concepts as contingent and alternative work arrangements, worker displacement, and pension and health insurance coverage were developed by the Bureau of Labor Statistics. Although these measures did not exist in 1975, we include a discussion of them here in order to gain a broader picture of the labor market in which young women participate today.

Alternative work arrangements and contingent workers In recent years, contingent workers and those working in alternative arrangements have become the focus of debate. (See the box on page 8 for BLS definitions of alternative work arrangements and contingent workers.) Critics of these arrangements raise concern about these jobs because often they provide lower pay and lower rates of employer-provided pension and health care coverage than more traditional arrangements.[7] Other researchers point out that these kinds of jobs may pro-

Chart 1. Real median usual weekly earnings of full-time wage and salary workers aged 25 to 34 years by sex, 1979–2000

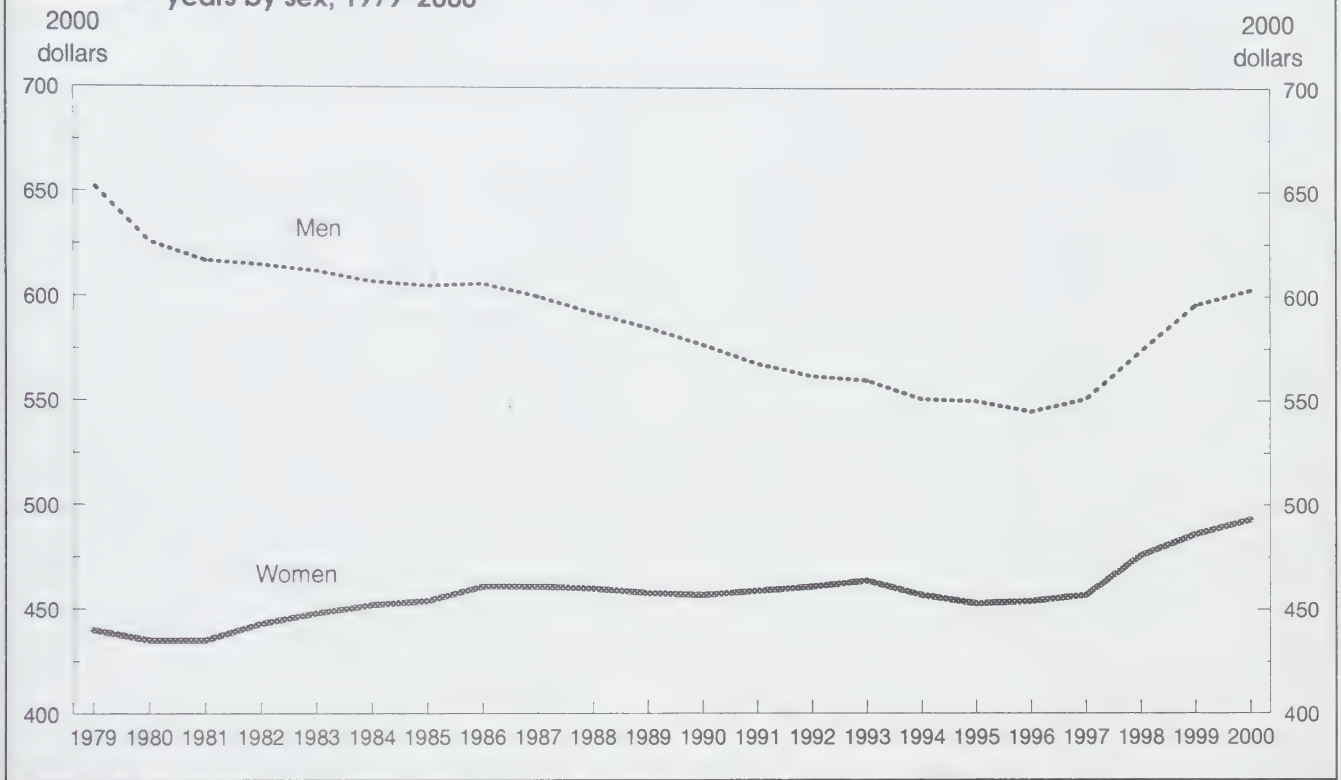
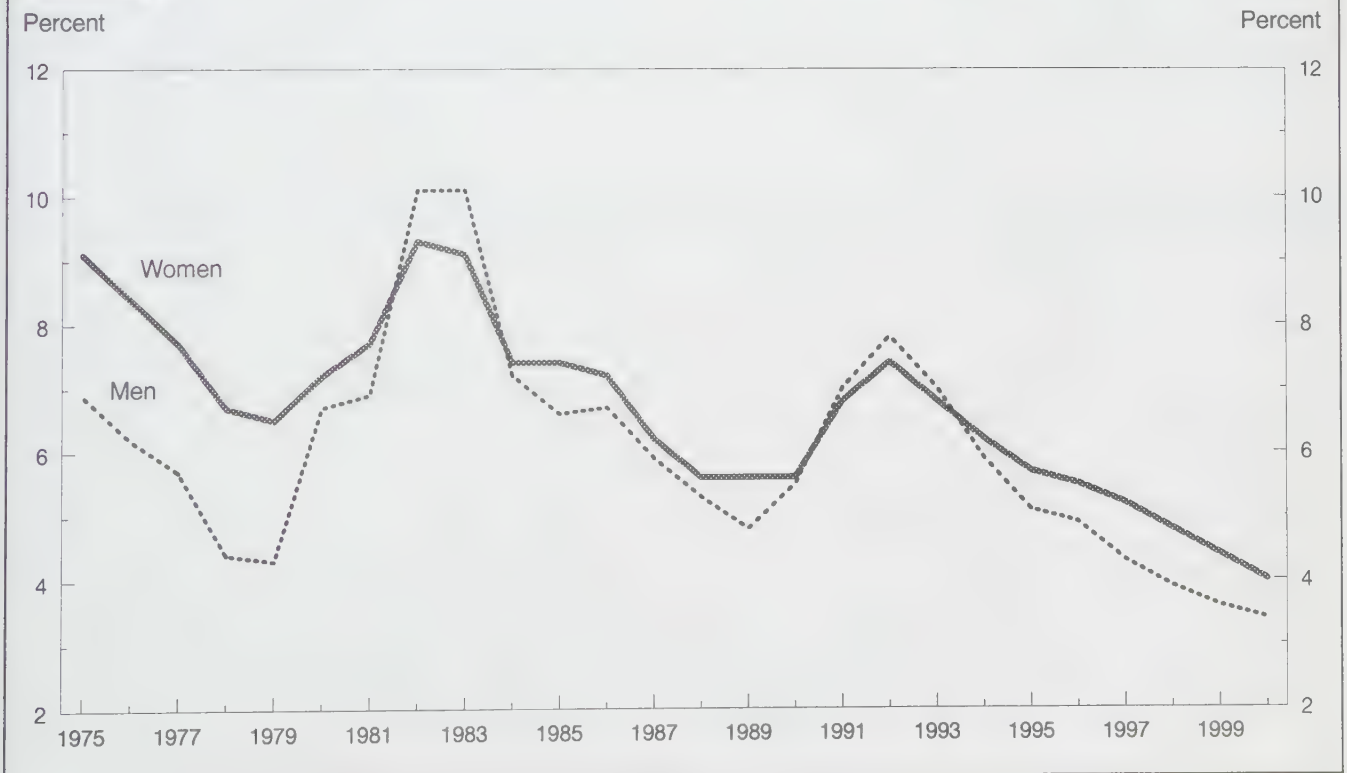


Chart 2. Unemployment rates for women and men aged 25 to 34 years, 1975–2000



vide women with flexibility and convenience that may not be available with traditional work arrangements. Also, there is some evidence that these arrangements may provide jobs to persons who would otherwise be unemployed.[8] In addition, as pointed out in recent BLS analyses,[9] while nearly half of on-call workers and temporary help agency workers say they would prefer regular employment, most consultants and independent contractors seem to prefer their current arrangements. Moreover, pay, benefits, and other aspects of these kinds of jobs differ greatly among the various alternative arrangements.

In 1995, BLS began collecting data on the prevalence of alternative work arrangements through a supplement to the Current Population Survey (CPS).[10] Data from the supplement clearly indicate that the incidence of such work arrangements is not very widespread. Only about 6 percent of women aged 25 to 34 are employed in the four BLS-defined alternative work arrangements, the most common being independent contracting. (See table 7.) In fact, since 1995, the proportion of women aged 25 to 34 with alternative arrangements has edged down.[11]

Among the alternative work arrangements, perhaps the one that has received the most attention is the temporary help arrangement. Data from the supplement show that workers in these jobs have the lowest median weekly earnings among all of the arrangements, as well as the lowest rates of health and pension benefit coverage.[12] And while only a very small proportion of all employed 25- to 34-year-old women were temporary help agency workers, young black and Hispanic women were somewhat more likely than white women to be employed in this type of arrangement; at the same time, they were somewhat less likely than white women to work as independent contractors.

One interesting fact about independent contractors is that men in the arrangement earn, on average, more than men in traditional work arrangements. Female independent contractors, on the other hand, earn less, on average, than their counterparts in traditional arrangements—most likely due to the high percentage of female independent contractors who work part time.

As seen in the box, BLS defines *contingent* workers as those who do not have an explicit or implicit contract for long-term employment. Within that group, three progressively broader measures of contingent employment are defined, known as *estimates 1–3.* The broadest measure, estimate 3, is the one most often cited, and the statements made in this article about contingent workers are all based on this third definition.

As with alternative work arrangements, the proportion of 25- to 34-year-old women who are contingent workers is quite small and has been falling since the survey was first conducted in 1995. About 4 percent of both white and black women in this age group were contingent workers, while the comparable figure for Hispanic women was 6.5 percent. On average, contingent workers have lower pay and benefit coverage than persons in traditional arrangements. In addition, because they view their jobs as short term, they may have little attachment to their employers.

Work at home and flexible schedules. Women frequently cope with the challenge of meeting their job and family responsibilities by selecting jobs that allow them the freedom to change their work schedules or work locations. According to information collected in a May 1997 CPS supplement, about 3 million women aged 25 to 34 who worked full time held jobs that allowed flexibility in their work schedules (numbers in thousands):[13]

Table 7. Employed women aged 25–34 in alternative and traditional work arrangements and in contingent and noncontingent arrangements by race and Hispanic origin, as a percentage of all employed women aged 25 to 34, February 2001

Arrangement	Women			
	Total	White	Black	Hispanic
Total employed[1]	100.0	100.0	100.0	100.0
Contingent workers[2]	4.0	4.0	4.1	6.5
Noncontingent workers	96.0	96.0	95.9	93.4
Workers with alternative arrangements				
Independent contractors	3.9	4.2	1.6	2.7
On-call workers	0.8	0.8	0.7	1.0
Temporary help agency workers	1.3	0.9	3.7	2.3
Workers provided by contract firms	0.2	0.3	–	0.2
Workers with traditional arrangements	93.7	93.8	94.0	93.3

[1] Detail may not sum to 100 percent due to rounding.

[2] Data on contingent workers refers to those who fall under estimate 3 of contingency. Estimate 3 is the broadest measure of contingency and includes anyone who does not expect his/her job to last.

NOTE: Dash indicates data not available.

	Total	With flexible schedules	
		Number	Percent
Women, 25 to 34 years	10,486	2,931	28.0
Men, 25 to 34 years	14,721	4,231	28.7

Interestingly, roughly equal proportions of young women and men in this age group work flexible schedules. In addition, 25- to 34-year-old women were more likely than women of other ages to have this kind of flexibility in their jobs.[14]

Data from the same 1997 CPS supplement show that about 18 percent of 25- to 34-year-old women did at least some work at home, although less than a third of those who worked at home did so for pay—that is, in addition to their normal wages. Women in this age group were more likely than their male counterparts to work at home, and they also were more likely than men to get paid for their at-home work. The vast majority of 25- to 34-year-old women worked only partly at home, with just 4 percent reporting that they had worked exclusively from home. Finally, among the racial and ethnic groups, 20 percent of white women worked at home, compared with 11 percent of Hispanic women and 8 percent of black women. (See table 8.)

Worker displacement. Nearly a million women aged 25 to 34 lost or left their jobs from January 1997 to December 1999 because their plant or company closed or moved, there was insufficient work to do, or their positions or shifts were abolished. (See table 9.) In the latest CPS supplement on displaced workers conducted in February 2000, workers who were displaced during the January 1997–December 1999 period were asked questions about their employment status in February 2000.

About 86 percent of women aged 25 to 34 who were displaced were in the labor force in February 2000. This compares with about 97 percent of their male counterparts. Women in this age group were the most likely among all displaced female workers to be re-employed. Moreover, of all displaced female workers in the prime working-age group (25 to 54 years), 25-to-34-year-olds were the least likely to be unemployed when surveyed in February 2000. White women in this age group who were displaced were more likely to be re-employed in February 2000 and less likely to be unemployed or not in the labor force than either their black or Hispanic counterparts.

The fact that young women were more likely than young men to have left the labor force after being displaced may suggest that some women take the opportunity to begin a family or to pursue personal goals that do not involve work for pay during these primary child-bearing years. The movement out of the labor market, however, comes with a price. Research has shown that when women leave the labor force for extended periods to pursue family responsibilities, they return to work facing lower wages than those who remained in the labor force, and they never quite catch up.[15]

Table 8. Persons aged 25 to 34 working on primary job in nonagricultural industries by prevalence of work at home, sex, and race, May 1997

Work at home	Women		Men	
	Number	Percent	Number	Percent
Total, at work	13,792	100.0	16,414	100.0
Reporting work at home	2,498	18.2	2,358	14.5
Primary job partly at home	1,949	14.2	2,172	13.2
Primary job entirely at home	549	4.0	186	1.1
White, at work	11,165	100.0	13,703	100.0
Reporting work at home	2,230	20.0	2,122	15.5
Black, at work	1,850	100.0	1,735	100.0
Reporting work at home	151	8.2	108	6.2
Hispanic origin, at work	1,434	100.0	2,280	100.0
Reporting work at home	158	11.0	133	5.8

NOTE: Percentages are based on unpublished figures of the number of persons who responded to the question on work at home.

Working poor. For many women, economic gains over the past 25 years have narrowed the gap in earnings with men and have led to more economic and financial independence. Nonetheless, nearly 1 million young women (25 to 34 years) were classified among the working poor in 1999. (See table 10.) These are women who were in the labor force (working or looking for work) for at least 27 weeks during the year, but whose income fell below the official poverty threshold.[16] Women in this age group were somewhat more likely than their male counterparts to be among the working poor in 1999 (7 percent versus 5 percent).

Black women of this age were far more likely to be among the working poor than were either white or Hispanic women. Nearly 16 percent of the young black women who had been in the labor force for at least 27 weeks in 1999 were considered to be below the poverty level—nearly three times the rate of their white counterparts. A little more than 10 percent of young Hispanic women were among the working poor.

In contrast to young black women, black men in this age group were no more likely to be among the working poor than white men (5 percent). Hispanic men, however, were more than twice as likely to be among the working poor as either their white or black counterparts.

Health insurance and pension plan coverage. Monetary earnings are only part of a worker's compensation—health insurance, pensions, and other benefits are important components as well. The rising costs of health care and prescription drugs in the United States have made health insurance a vital

Table 9. Displaced workers aged 25 to 34 who lost jobs between January 1997 and December 1999 by sex, race, Hispanic origin, and employment status in February 2000

(Numbers in thousands)

Sex and race	Number (in thousands)	Percent distribution by employment status in February 2000			
		Total	Employed	Unemployed	Not in the labor force
Women, total	917	100.0	75.9	9.6	14.5
White	715	100.0	78.0	9.0	13.0
Black	165	100.0	70.9	9.7	19.4
Hispanic	122	100.0	63.8	16.0	20.2
Men, total	1,002	100.0	84.8	11.7	3.5
White	822	100.0	84.4	12.3	3.3
Black	151	100.0	89.4	10.2	0.4
Hispanic	159	100.0	82.2	13.6	4.2

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table 10. Persons aged 25 to 34 in the labor force for 27 weeks or more: Poverty status by age, sex, race, and who were Hispanic origin, 1999

(Numbers in thousands)

Age and sex	Total	White	Black	Hispanic origin	Below poverty level				Poverty rate[1]			
					Total	White	Black	Hispanic origin	Total	White	Black	Hispanic origin
Total, 25 to 34 years	30,695	24,839	4,096	4,178	1,835	1,290	433	486	6.0	5.2	10.6	11.6
Men, 25 to 34 years	16,728	13,865	1,899	2,558	852	707	93	315	5.1	5.1	4.9	12.3
Women, 25 to 34 years	13,967	10,975	2,197	1,620	983	582	340	172	7.0	5.3	15.5	10.6

[1]Number below the poverty level as a percent of the total in the labor force for 27 weeks or more.

NOTE: Detail for the race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

necessity for most people. The vast majority (83 percent) of women aged 25 to 34 have health insurance from some source.[17] White women had higher rates of coverage than either black or Hispanic women, although the rates for whites and blacks were quite close. (See table 11.)

About 60 percent of female wage and salary workers in the 25- to 34-year age group received health insurance on their primary job.[18] Black women were the most likely to receive health insurance through their employer, followed by white and Hispanic women. Less than half of all young Hispanic women received health insurance through their main job.

Pension plans, either in the form of an employer-provided retirement plan, Individual Retirement Account (IRA), or Keogh Plan, are essential for future financial security. About half of all female wage and salary workers aged 25 to 34 years had a pension plan in February 2001. As with health insurance, the rates for white and black women were quite similar, at 50 percent and 48 percent, respectively, while only 38 percent of Hispanic women reported having a pension plan through their employer.

YOUNG WOMEN TODAY face many of the same career choices and challenges as did their peers 25 years earlier. While decisions about school, family, marriage, and careers often factor into one another, it is clear that today's young women are making somewhat different choices. In particular, they are spending more time at market work than their predecessors. As a result, more women today are having to balance their roles as wives and mothers with their jobs.

As the statistics described throughout this article indicate, 25- to 34-year-old women today are much more likely to participate in the labor force. They also are more likely to have gone to college, to work more, and to pursue careers in higher paying occupations. These decisions and opportunities, while rendering them better off financially than they were 25 years ago, also

Table 11. Female wage and salary workers aged 25 to 34 by health insurance coverage and pension coverage, February 2001

Characteristic	Total	White	Black	Hispanic
Total wage and salary workers	12,964	10,209	2,029	1,690
With health insurance coverage	10,775	8,555	1,622	1,160
Percent of total wage and salary workers	83.1	83.8	79.9	68.6
With coverage through main job	7,766	6,068	1,233	802
Percent of total wage and salary workers	59.9	59.4	60.8	47.5
With pension coverage	6,423	5,116	964	639
Percent of total wage and salary workers	49.5	50.1	47.5	37.8

present them with the difficult problems involved in deciding how to prioritize their lives among work, marriage, and children.

Although women aged 25 to 34 tend to earn more—in real terms—than they did in 1975, black and Hispanic women still do not have parity with white women in terms of earnings and benefits. While these minority women have closed the gap significantly over the past decade and a half, there is still much progress to be made. □

Notes

[1] In this article, the term "market work" refers to jobs outside the home, whether paid or unpaid.

[2] Most of the data in this chapter were derived from the Current Population Survey (CPS), a monthly sample survey of households conducted by the Bureau of the Census for the Bureau of Labor Statistics. For more information regarding the Current Population Survey, see *Current Population Survey: Design and Methodology*, Bureau of Labor Statistics Technical Paper 63, March 2000. Where the CPS did not provide complete information, other sources were used.

[3] See *Statistical Abstract of the United States: 2000* (Bureau of the Census, 2000), pp. 51–54; see also comparable tables in earlier editions.

[4] Lugaila, Terry A., "Marital Status and Living Arrangements: March 1998 (Update)," *Current Population Reports*, Series P20–514 (Bureau of the Census, December 1998).

[5] Data on work experience come from the March supplement to the CPS in which respondents are asked questions about their work experience in the prior year.

[6] Full-time, year-round workers are those who worked at least 50 weeks out of the calendar year and worked full time (35 hours or more) for the majority of weeks that they worked.

[7] See, for example, Helene J. Jorgensen, *When Good Jobs Go Bad* (Washington, DC, 2030 Center, 1999.)

[8] See, for example, Anne E. Polivka, "Into contingent and alternative employment: by choice?" *Monthly Labor Review*, October 1996, pp. 55–74 and Marisa DiNatale, "Characteristics of and preference for alternative work arrangements, 1999" *Monthly Labor Review*, March 2001, pp. 47–49.

[9] *Contingent and Alternative Employment Arrangements, February 2001*, USDL 01–153, (U.S. Department of Labor) May 24, 2001.

[10] The first supplement on Contingent and Alternative Work Arrangements was conducted in February 1995. Subsequent supplements were conducted in February of 1997, 1999, and 2001.

[11] In the February 1995 and 1997 Contingent and Alternative Work Arrangements supplements to the CPS, 7.5 percent of employed young women were working in one of the four alternative arrangements. In February 1999 and in February 2001, the percentage edged down to 6.3 percent.

[12] In the February 1999 supplement, full-time female temporary help agency workers age 16 and over earned a median weekly salary of $331 compared with $474 for women in traditional arrangements. Earnings data for workers with traditional arrangements were not collected in the February 2001 supplement.

[13] The discussion that follows on workers with flexible schedules is limited to those who usually work full time, because altering the beginning and ending hours of work often is a requirement in part-time jobs.

[14] See Lonnie Golden, "Flexible work schedules: what are we trading off to get them?" *Monthly Labor Review*, March 2001, pp. 52–53.

[15] See Lori G. Kletzer and Robert W. Fairlie "The Long-Term Costs of Job Displacement for Young Adult Workers," unpublished manuscript, Department of Economics, University of California at Santa Cruz. See also Joyce P. Jacobsen and Laurence M. Levin, "Effects of intermittent labor force attachment on women's earnings," *Monthly Labor Review*, September 1995, pp. 14–19.

[16] For information about how poverty is determined, see *Poverty in the United States: 1999—Current Population Report* series P–60, no. 210 (U.S. Bureau of the Census, September 2000). For persons living with family members, the earnings thresholds used to define poverty status are defined in terms of total family income, including the earnings of other family members, as well as income from other sources. For persons living alone or with nonrelatives, the earnings thresholds are based solely on their personal income.

[17] Data on health insurance and pension coverage are from a CPS supplement conducted in February 2001.

[18] Note that others might have been offered health insurance by their employers, but declined coverage because they were covered by a spouse's policy or for other reasons.

Productivity growth in 'high-tech' manufacturing industries

Among manufacturing industries employing a substantial proportion of research and development and technology-oriented workers, the information technology industries exhibited particularly strong productivity growth over the 1987–99 period

Christopher Kask and Edward Sieber

It is widely accepted that the high-technology sector is one of the most dynamic parts of the U.S. economy. High-tech industries are thought of as an important source of employment growth, profits, and innovation in products and production processes. Accordingly, the high-tech sector has been a center of interest, generating numerous analyses and studies. In a 1997 *Monthly Labor Review* study, for example, William Luker, Jr., and Donald Lyons stated that "the continuing attention paid to high-tech industries in recent years seems to be rooted in the widespread belief that the innovations they produce can profoundly alter an economy's mix of firms, industries, and jobs."[1]

The high-tech manufacturing sector, under alternative definitions, has dominated other manufacturing industries with respect to productivity growth. Between 1987 and 1999, labor productivity—defined as output per hour of labor input—increased 9.5 percent per year in high-tech manufacturing industries.[2] Over the same period, labor productivity in the manufacturing sector as a whole increased 3.2 percent per year. Chart 1 illustrates the dramatic difference between these two growth rates.

Labor productivity relates output to the labor resources used in its production. It is an indicator of the efficiency with which labor is being utilized.[3] High-tech manufacturing's strong performance seems consistent with expectations, but the situation deserves a closer look. Are all the industries in the high-tech sector recording rapid efficiency gains as measured by growth in labor productivity? Would the high-tech efficiency advantage be as large if inputs into the production process other than labor were accounted for? What is happening to costs in the high-tech sector?

This article builds upon earlier BLS work and identifies a set of detailed industries as representing the high-tech manufacturing sector. Productivity developments in these industries were examined, and a set of aggregate measures were developed that permit comparison of the high-tech manufacturing sector with manufacturing as a whole. In addition to labor productivity and related measures such as output, labor hours, employee compensation, and unit labor costs, the analysis includes multifactor productivity, a measure of economic efficiency that relates output to combined inputs of labor hours, capital services, and intermediate purchases.

Economic growth can occur from increases in inputs or from advances in productivity. Increases in inputs impose costs on society, such

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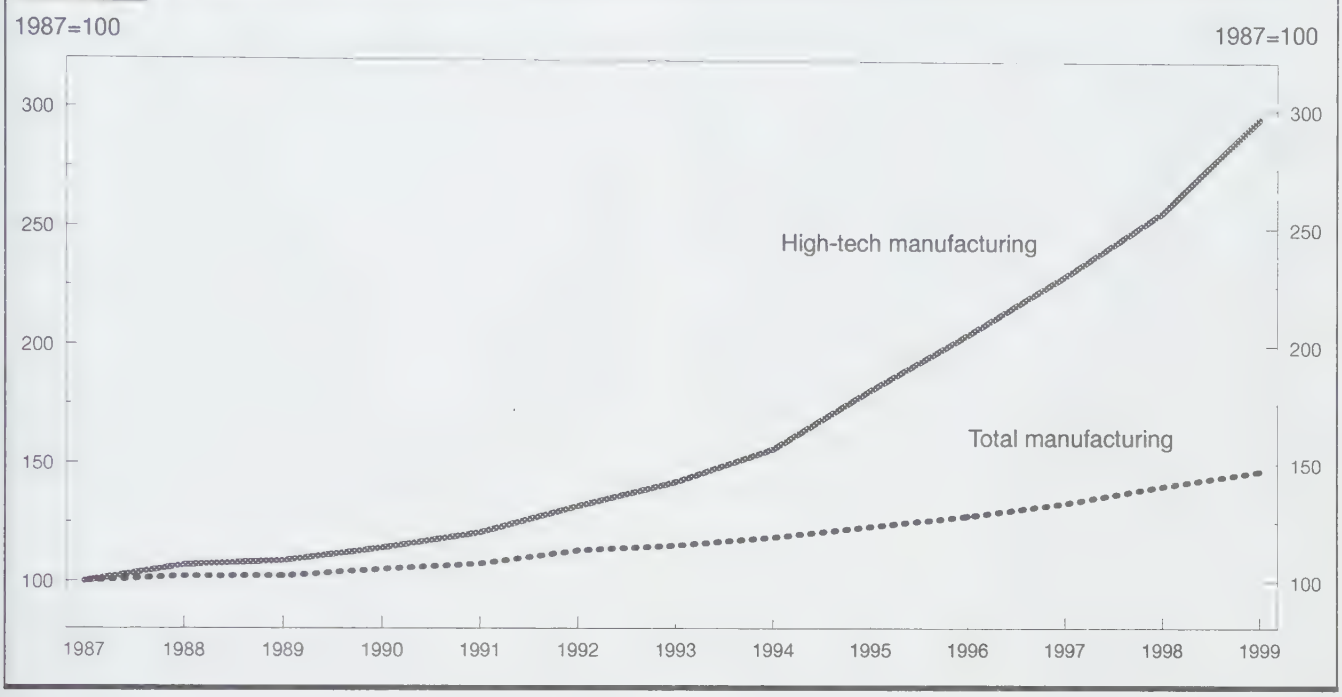
Chart 1. Index of output per hour in high-tech manufacturing and total manufacturing, 1987–99



as less leisure time, reduced current consumption, and depletion of resources. Multifactor productivity growth measures changes in output that are not attributed to the changes in combined inputs. While measures of labor productivity provide valuable insights into efficiency, measures of multifactor productivity are more useful in this regard. By accounting for sources of growth from additional inputs—specifically, capital and intermediate purchases—multifactor productivity analysis more closely measures changes in efficiency.[4]

Data sources and limitations

The data used for this analysis are produced by the Office of Productivity and Technology. The analysis of high-tech manufacturing is based on data for industries classified at the three-digit level in the 1987 U.S. Standard Industrial Classification (SIC) system.[5] This data set includes labor productivity and related measures for three- and four-digit SIC industries for the period from 1987 through 1999. For the 140 three-digit SIC manufacturing industries considered here, multifactor productivity and related series are also available for the 1987–99 period.[6]

Data for the manufacturing sector as a whole are from the BLS series on productivity in major sectors of the U.S. economy. This data set contains indexes of labor productivity and related measures for the private business, private nonfarm business, and manufacturing sectors for the 1949–2001 period. Multifactor productivity measures are available for the same sectors for 1949 through 2000, except for manufacturing, which extends through 1999.

Data limitations at the three-digit industry level impose some restrictions on this analysis. Although the aggregate manufacturing data are available from 1947, the need to compare these measures with the industry data restricts the analysis of labor productivity to the 1987–99 period and two subperiods: 1990 to 1995 and 1995 to 1999. Also, it usually is advisable to analyze productivity movements over the course of a full business cycle in order to minimize the effects of cyclical movements on the results. However, the relatively short time span over which the industry data are available does not allow us to follow this approach.[7] In addition, the three-digit level of aggregation may obscure variation in detailed component industries. (Some of this variation is discussed later in this article.) Finally, accurate measurement of price and output series, and therefore productivity, is particularly difficult in industries with rapidly changing products such as those characterized by high-tech manufacturing output (notably computers, semiconductors, and pharmaceuticals).[8]

Defining high-tech manufacturing

What is the high-tech manufacturing sector? Although the term "high tech" is used frequently, there is no consensus on exactly which industries to include in a "high-tech sec-

tor," and the appropriate approach to use is not apparent. For example, one early BLS analysis of high-tech employment cites a study in which industry groups were designated as "high tech based on the perceived degree of technical sophistication of the product."[9] A report from the Congressional Office of Technology Assessment identifies high-tech firms as being those involved in introducing new products and processes "through the systematic application of scientific and technical knowledge."[10] The Organization for Economic Cooperation and Development (OECD) identifies high-tech industries largely on the basis of their level of research and development intensity (research and development expenditure in relation to value added).[11] In his 1999 study of high-tech employment, Daniel Hecker notes that high-tech firms "devote a 'high' proportion of expenditures to research and development and employ a 'high' proportion of scientific, technical, and engineering personnel."[12]

The various approaches to classifying high-tech industries fall into two broad classes: A majority of studies classify industries by the extent to which they employ certain types of workers or undertake certain types of expenditures (input-based criteria), while another group of studies focuses on the nature of the industries' products (output-based criteria). Both approaches have certain advantages as well as drawbacks. Input-based approaches have the advantage of resting on easily obtainable, nonsubjective data—for example, the proportion of an industry's workers in technology-oriented professions or the proportion of industry costs devoted to research and development. In the absence of wide agreement on the threshold proportions above which an industry should be considered high tech, however, any such choice must be considered arbitrary. Input-based approaches also suffer from a failure to take account of the products of the industry. Thus, high-tech industries identified solely on the basis of inputs may chiefly manufacture products not commonly thought of as high tech.

Output-based approaches generally rely on some determination of the level of technical sophistication embodied in an industry's products or the extent to which these products have undergone rapid change. Although following this approach makes it more likely that the products of the designated industries will match popular conceptions of high tech, the judgements about product sophistication or rapid change on which these studies rely tend to be subjective.

Considerable research interest has been directed at "information technology" industries. Three of the manufacturing industries studied here—computer and office equipment (SIC 357), communications equipment (SIC 366), and electronic components and accessories (SIC 367)—fall into this category. Much of the research, however, has used more aggregated data and focused on SIC 35, industrial and commercial machinery and equipment and computer equipment, and SIC 36, electronic and other electrical equipment and components.[13]

BLS data show that productivity gains in these two industries accounted for a large share—0.5 percentage points per year—of the 1.9-percent annual average rise in nonfarm business output per hour from 1990 to 1999. Further, information processing equipment and software represents a portion of capital, and growth in such capital accounted for another 0.6 percentage points per year of the growth in labor productivity. As a result, the production of these information technology goods and the use of information processing equipment and software accounted for more than half of nonfarm business labor productivity growth over this period.[14]

The results reported in this article show that, at the three-digit SIC level, productivity growth in the information technology industries far surpassed that in the other high-tech industries studied. Why not, then, specify the high-tech manufacturing sector to include only the information technology industries? For purposes of this analysis, criteria were desired that are independent of the industry growth and productivity measures we wish to evaluate. This, coupled with a view that high-tech manufacturing industries may include those with advanced production processes even though their products may not be considered high tech, led us to favor an input-based approach to designate high-tech industries.

Previous *Monthly Labor Review* articles on the high-tech sector have generally focused on employment in high-tech industries.[15] These studies have all considered the question of how to define the high-tech sector and have examined alternative criteria for this purpose. In these studies and in the work of outside researchers, the use of research and development data is a common criterion for classifying high-tech industries. Indeed, the National Science Foundation notes that "industries that rely heavily on research and development . . . are often referred to as high-technology industries."[16]

To arrive at a workable definition of high-tech manufacturing industries, we draw heavily from the Hecker analysis of high-tech employment.[17] In that article, the fundamental criterion for including an industry in the high-tech sector is the existence of a high proportion of research and development employment and "technology-oriented workers." Technology-oriented workers include engineers; life and physical scientists; mathematical specialists; and engineering, scientific, and computer managers. In Hecker's study, the high-tech sector contains 29 three-digit-level industries, including a subset of 10 "high-tech intensive"

industries. Of the 29 industries, 25 are classified in manufacturing and 4 are in services; of the 10 high-tech intensive industries, 2 are in services. High-tech intensive industries are those that have at least 15 research and development workers per thousand workers and 190 technology-oriented workers per thousand workers. These ratios are at least 5 times the average for all industries. Although the criteria are objective, the cut-off proportions are necessarily somewhat arbitrary.

In this article, we adopt Hecker's subset of high-tech intensive manufacturing industries. Because this study focuses on manufacturing industries only, we exclude the two service-producing industries in Hecker's group—computer and data processing services (SIC 737) and research, development, and testing services (SIC 873).[18] Over the 1987–99 period, employment in our group of high-tech manufacturing industries averaged about 16 percent of total manufacturing employment.

Table 1 shows the makeup of the high-tech manufacturing sector in terms of both employment and value of production. Among these industries, the electronic components and accessories industry and the aircraft and parts industry (SIC 372) have the highest employment levels, each accounting for nearly 20 percent of average employment in this sector over the period. When combined with the computer and office equipment industry, which has an average employment share of 13.3 percent, these three industries make up more than 52 percent of high-tech manufacturing employment. Not surprisingly, the same three industries account for the largest shares of average total production in the high-tech manufacturing sector, each generating 13 to 16 percent of the sector total.

The research and development and technology-oriented employment criteria used to designate high-tech industries, applied at the three-digit SIC level of detail, capture industries with outputs that are commonly thought of as high-tech, such as electronic computers (SIC 3571) and semiconductors (SIC 3674). The criteria also capture industries in which the production processes are high-tech even though the outputs themselves are not often thought of as high tech, such as industrial inorganic and industrial organic chemicals (SICs 281 and 286). In addition, high-tech output includes components of three-digit industries that do not produce items normally thought of as high tech, nor do they use high-tech processes; such industries include laboratory apparatus and furniture (SIC 3821) or office machines, not elsewhere classified (SIC 3579).

Although the measures for high-tech industries and total manufacturing are drawn from different data sets, they are very similar in concept. In most cases, discrepancies arising from the use of different data sources or computation methods are not likely to significantly alter the comparisons.[19]

Table 1. Composition of the high-tech manufacturing sector, 1987–99 average

SIC	Industry	Percent of sector total based on:	
		Value of production	Employment
281	Industrial inorganic chemicals	4.0	2.9
283	Drugs	11.8	8.5
286	Industrial organic chemicals	11.6	4.9
357	Computer and office equipment	13.5	13.3
366	Communications equipment	10.3	8.8
367	Electronic components and accessories	16.0	19.9
372	Aircraft and parts	14.6	19.4
376	Guided missiles, space vehicles, and parts	4.6	4.6
381	Search and navigation equipment	6.7	7.5
382	Measuring and controlling devices	7.0	10.1

Labor productivity

Labor productivity, as measured by output per hour, is an important indicator of economic progress. Growth in labor productivity measures the growth in output that is not attributed to growth in the number of hours worked. Improvements in the well being of average workers rest largely on the growth of labor productivity. The benefits for workers from growth in labor productivity are reflected in rising real wages and other compensation. Over time, trends in real labor compensation tend to parallel trends in labor productivity. There is an expectation that the recent acceleration in productivity growth in the high-tech sector will be a source of rising compensation and more rapid growth in standards of living. Labor productivity growth is also credited with contributing to price stability. Changes in output prices may be influenced by changes in compensation per unit of output (unit labor costs). With rising productivity, higher worker compensation need not translate into higher output prices. Increases in output per hour offset the growth in hourly compensation and tend to moderate price growth.

On average, labor productivity in the high-tech sector grew 9.5 percent per year from 1987 to 1999. (See table 2.) This exceeded the labor productivity growth rate for overall manufacturing by 6.3 percentage points. While output grew by 8.0 percent annually, on average, hours actually declined by 1.4 percent per year from 1987 to 1999. Output in total manufacturing, by contrast, grew by 3.3 percent per year, on average, and hours were unchanged.

Although the high-tech sector experienced rapid growth in output per hour throughout the 1990s, the rate of growth accelerated in the latter half of the decade. From 1990 to 1995, labor productivity growth averaged 9.6 percent per year. The strong growth was due to a rapid decline in employee hours of 3.8 percent per year combined with output growth of 5.5 percent. The decline in hours in the high-tech sector reversed

Table 2. Labor productivity, multifactor productivity and related measures for high-tech industries and manufacturing

(1987=100)

Year	Output per hour	Output	Total hours	Employment	Average hours	Unit labor costs	Multifactor productivity	Combined inputs	Capital	Intermediate purchases	Output per unit of capital	Output per unit of intermediate purchases
	High-tech manufacturing											
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.0	107.6	100.6	100.8	99.8	99.0	103.2	104.3	104.9	106.3	102.6	101.3
1989	108.9	109.6	100.6	100.8	99.9	100.2	104.2	105.2	109.7	106.2	100.0	103.2
1990	114.4	112.6	98.5	98.4	100.0	101.4	105.3	106.9	114.1	109.3	98.7	103.0
1991	120.9	112.9	93.4	93.7	99.7	101.3	105.6	107.0	117.9	111.4	95.8	101.4
1992	131.8	116.4	88.3	88.4	99.9	98.3	109.9	106.0	121.5	111.4	95.8	104.5
1993	142.1	119.4	84.0	83.9	100.1	93.8	113.3	105.4	125.2	111.7	95.4	106.8
1994	156.3	127.4	81.5	81.0	100.6	86.8	119.9	106.2	129.9	113.4	98.1	112.3
1995	181.0	147.1	81.3	80.7	100.7	76.8	131.4	111.9	138.0	122.4	106.6	120.2
1996	204.8	169.8	82.9	82.4	100.6	69.2	140.4	121.0	149.4	135.9	113.7	125.0
1997	229.5	199.2	86.8	85.6	101.4	62.7	152.0	131.1	161.4	149.7	123.4	133.1
1998	256.9	226.3	88.1	87.3	100.9	57.3	164.5	137.6	173.8	157.2	130.2	143.9
1999	296.5	251.2	84.7	84.5	100.3	52.1	179.7	139.8	183.0	160.4	137.3	156.6
	Average annual percent change											
1987–99	9.5	8.0	–1.4	–1.4	0.0	–5.3	5.0	2.8	5.2	4.0	2.7	3.8
1990–95	9.6	5.5	–3.8	–3.9	.1	–5.4	4.5	.9	3.9	2.3	1.6	3.1
1995–99	13.1	14.3	1.0	1.2	–.1	–9.2	8.1	5.7	7.3	7.0	6.5	6.8
	Manufacturing											
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.2	104.9	102.7	101.8	100.9	101.9	101.8	103.1	101.7	103.9	103.1	100.9
1989	102.3	105.4	103.1	102.2	100.9	105.0	99.9	105.5	103.7	108.7	101.7	96.9
1990	105.2	106.2	101.0	100.7	100.3	107.0	99.8	106.4	106.2	112.0	100.0	94.7
1991	107.6	104.1	96.8	97.2	99.5	110.1	98.8	105.4	108.4	112.8	96.0	92.2
1992	113.3	109.1	96.3	95.5	100.9	109.4	100.5	108.6	110.8	120.6	98.5	90.4
1993	115.4	112.7	97.7	95.6	102.2	110.3	101.5	111.1	113.3	124.6	99.6	90.4
1994	118.9	118.6	99.8	96.8	103.1	110.2	104.1	114.1	115.8	128.7	102.5	92.2
1995	123.4	123.7	100.2	97.9	102.4	108.3	106.1	116.6	119.6	133.0	103.4	93.0
1996	127.7	127.6	99.9	97.6	102.3	106.0	107.0	119.3	124.1	138.7	102.9	92.0
1997	133.2	135.4	101.6	98.6	103.1	103.6	110.7	122.3	129.3	141.9	104.7	95.4
1998	140.4	142.3	101.4	99.3	102.1	103.6	113.7	125.2	135.2	147.4	105.2	96.5
1999	146.8	147.5	100.5	97.8	102.8	103.2	117.0	126.1	142.2	147.3	103.7	100.1
	Average annual percent change											
1987–99	3.2	3.3	0.0	–.2	0.2	0.3	1.3	2.0	3.0	3.3	0.3	0.0
1990–95	3.2	3.1	–.1	–.6	.4	.2	1.2	1.8	2.4	3.5	.7	–.4
1995–99	4.4	4.5	.1	.0	.1	–1.2	2.5	2.0	4.4	2.6	.1	1.9

after 1995, and hours grew at 1.0 percent per year through 1999. Despite this reversal in hours growth, labor productivity growth accelerated to 13.1 percent per year as output growth raced ahead to 14.3 percent per year from 1995 to 1999. While output per hour in the manufacturing sector also grew more rapidly in the second half of the 1990s, the 4.4-percent rate (up from the 1990–95 rate of 3.2 percent) was still only about one-third of the growth rate in the high-tech sector.

This rapid growth in high-tech labor productivity masks considerable variation in the growth rates of labor productivity for the individual industries within the group. Of the 10 industries identified as high tech, only the 3 information technology industries had labor productivity growth rates in excess of the average for the group. (See table 3.) Output per hour in the computer and office equipment industry grew 27.5 percent per year over the 1987–99 period, while in the electronic components and accessories industry, the rate of growth was 21.8 percent per year, and in communications equipment, it was 10.4 percent. In addition, the rate of labor productivity growth in three other high-tech industries exceeded the total manufacturing rate, while the rate in four high-tech in-

Table 3. Sector growth rates and industry contributions to high-tech sector: labor productivity, multifactor productivity, and related measures, 1987–99

SIC	Industry	Output per hour	Output	Hours	Employment	Total Compensation	Unit labor costs	Multifactor productivity	Combined Inputs	Capital	Intermediate purchases
	Manufacturing	3.2	3.3	0.0	–0.2	3.6	0.3	1.3	2.0	3.0	3.3
	High-tech sector	9.5	8.0	–1.4	–1.4	2.3	–5.3	5.0	2.8	5.2	4.0
281	Industrial inorganic chemicals	4.6	2.8	–1.7	–1.8	2.4	–.4	2.0	.7	–.6	2.0
283	Drugs	.4	3.1	2.7	2.7	7.2	4.0	–2.7	6.0	6.0	7.3
286	Industrial organic chemicals	.9	–.2	–1.1	–1.3	3.2	3.4	–1.9	1.7	3.1	1.8
357	Computer and office equipment	27.5	25.0	–1.9	–1.8	1.2	–19.0	18.8	5.2	6.2	7.4
366	Communications equipment	10.4	9.9	–.4	–.4	5.4	–4.1	3.9	5.8	5.3	9.6
367	Electronic components and accessories	21.8	22.5	.5	.5	5.0	–14.3	16.6	5.1	9.0	5.3
372	Aircraft and parts	2.8	.2	–2.5	–2.6	.6	.4	.8	–.6	2.5	–.1
376	Guided missiles, space vehicles, & parts	3.9	–3.3	–6.9	–6.8	–3.9	–.7	.0	–3.2	–.3	–1.8
381	Search and navigation equipment	2.8	–3.0	–5.7	–5.7	–1.8	1.2	.3	–3.3	–1.3	–1.7
382	Measuring and controlling devices	3.6	3.1	–.5	–.4	3.2	.1	.2	2.9	3.9	5.2

dustries was less than the rate for total manufacturing.

By decomposing labor productivity in the high-tech sector, we can quantify the contributions made by the individual industries to the sector's productivity growth. The sum of the industry contributions approximately equals the labor productivity growth rate for the high-tech sector.[20] Table 4 illustrates that, as might be expected, the computer and office equipment and the electronic components and accessories industries contributed the most to the sector's productivity growth over the 1987–99 period. Combined, these two industries accounted for nearly three-quarters of the high-tech sector's labor productivity growth of 9.5 percent per year. The computer and office equipment industry contributed 3.4 percentage points, and the electronic components and accessories industry contributed 3.3 percentage points. A much smaller but nonetheless strong contribution was made by the communications equipment industry, which accounted for 1.0 percentage point of the sector's average annual growth. These three industries are also responsible for much of the high-tech acceleration in the second half of the 1990s. From 1990 to 1995, they accounted for more than 80 percent of the sector's labor productivity growth. Moreover, the contributions made by these three industries to labor productivity growth in the sector all increased in the second half of the 1990s. Together, the three industries were responsible for nearly 90 percent of the high-tech sector's growth in labor productivity from 1995 to 1999.

Output

Real output in the high-tech manufacturing sector more than doubled over the 1987–99 period, while in overall manufacturing, output increased by 48 percent. The average annual growth rate for the period was 8.0 percent in the high-tech sector, compared with 3.3 percent in manufacturing as a whole.

Output growth in total manufacturing and in the high-tech sector accelerated during the second half of the 1990s, compared with the first half. In manufacturing, the average annual growth rate of 4.5 percent from 1995 to 1999 was much faster than the rate of 3.1 percent experienced in the earlier part of the decade. In the high-tech sector, the acceleration was even greater, with the rate of output growth increasing from 5.5 percent per year in the early 1990s to 14.3 percent in the latter half of the decade.

Industry output growth varied greatly within the high-tech sector. The three information technology industries grew at a rate substantially faster than that of overall manufacturing. In contrast, the remaining seven high-tech industries grew slower than overall manufacturing, with three of the seven actually declining over the 1987–99 period. Output in computers and office equipment grew the fastest, averaging 25.0 percent per year and contributing 3.1 percentage points to high-tech output growth. Electronic components and accessories grew somewhat more slowly (22.5 percent), but its contribution to overall growth in the sector was greater (3.5 percentage points). Finally, in the communications equipment industry, growth in output was much slower than in the other two information technology industries, but quite strong nonetheless—9.9 percent per year, which accounted for 1.0 percentage point of the growth in high-tech output.

Generally, when combining industry data to form an aggregate (sectoral) output measure, industry outputs that are used as inputs by establishments within the same industry—intrasectoral transactions—are subtracted from the aggregate's overall output (and intermediate inputs) in order to avoid double counting.[21] Intrasectoral transactions have been removed from the aggregate manufacturing sector data used here and from the data for each of the three-digit industries we classify as high tech, but they have not been re-

Table 4. Sector growth rates and industry contributions to high-tech sector: labor productivity, multifactor productivity, and related measures, 1987–99

SIC	Industry	Output per hour	Output	Hours	Multifactor productivity	Combined inputs
	Manufacturing	3.2	3.3	0.0	1.3	2.0
	High-tech sector	9.5	8.0	–1.4	5.0	2.8
281	Industrial inorganic chemicals	.2	.1	–.1	.1	.0
283	Drugs	.1	.3	.2	–.3	.7
286	Industrial organic chemicals	.0	.0	–.1	–.2	.2
357	Computer and office equipment	3.4	3.1	–.3	2.4	.7
366	Communications equipment	1.0	1.0	.0	.4	.6
367	Electronic components and accessories	3.3	3.5	.2	2.6	.8
372	Aircraft and parts	.5	.0	–.5	.1	–.1
376	Guided missiles, space vehicles, & parts	.1	–.2	–.3	–.1	–.1
381	Search and navigation equipment	.2	–.2	–.5	.0	–.2
382	Measuring and controlling devices	.3	.2	.0	.0	.2

moved from the high-tech sector aggregate. This means that the output growth rates cited here and the intermediate purchases input growth rates cited later in the article are slightly different than adjusted measures would show. Also, not removing the double-counted output tends to artificially reduce the multifactor productivity growth rates for the high-tech sector aggregate because the double-counted transactions are in both the numerator and the denominator of the productivity formula.[22]

Labor input

Changes in labor input, as measured by total employee hours, reflect movements in employment and average hours per employee.[23] Because average hours in high-tech manufacturing were unchanged over the 1987–99 period, shifts in labor hours in this sector were largely the result of changes in employment levels. Employment in high-tech manufacturing declined 15.5 percent over the period, while hours dropped 15.3 percent.[24] Thus, by 1999, the high-tech manufacturing workforce had shrunk by more than 500,000 workers since 1987, and labor input had fallen by more than one billion hours.

The rates of decline in high-tech manufacturing labor input varied throughout the period, with employment and labor hours dropping sharply toward the middle portion of the period, before reversing direction and regaining some lost ground in the latter part of the period. These fluctuations are reflected in the data for the 1990–95 and 1995–99 subperiods. In the manufacturing sector as a whole, a slight decline in employment combined with a small increase in average hours resulted in essentially no change in the level of total labor hours from 1987 to 1999.[25]

Employment and total labor hours declined in most of the industries in the high-tech manufacturing sector over the 1987–99 period. The largest declines (50 to 58 percent) occurred in the search and navigation equipment (SIC 381) and guided missiles, space vehicles, and parts (SIC 376) industries. More modest declines (20 to 27 percent) occurred in two of the largest industries in the high-tech sector—aircraft and parts and computers and office equipment. The smallest high-tech industry, industrial inorganic chemicals, recorded employment and hours declines of 19 percent.

Employment and labor hours increased in only two high-tech manufacturing industries over the 1987–99 period. In the larger of the two, electronic components and accessories, employment increased by 5.6 percent and labor hours increased by 6.8 percent. In the much smaller drug industry (SIC 283), both employment and hours increased by about 37 percent over the period.

Unit labor costs

Total compensation costs in the high-tech industries rose more slowly over the period than in manufacturing as a whole. However, when labor costs are compared on a per-unit-of-output basis (unit labor costs), the high-tech manufacturing sector emerges with an even stronger advantage. While unit labor costs in the manufacturing sector as a whole increased slightly from 1987 to 1999 (0.3 percent per year), they declined in the high-tech industries at an average annual rate of 5.3 percent.

Unit labor costs are calculated either by dividing an index of labor compensation by an index of real output, or by dividing an index of compensation per hour by an index of output per hour (labor productivity). Changes in unit labor costs show how much labor productivity growth offsets increases in employee compensation per hour. Thus, the strong labor productivity gains found in high-tech manu-

facturing outweigh hourly compensation increases in that sector, and result in a substantial decline in unit labor costs over the period.

Unit labor cost performance varied substantially over the period among the high-tech industries. Not surprisingly, the industries with the largest increases in labor productivity, such as computers and office equipment and electronic components and accessories, tended to have the largest unit labor cost declines. Unit labor costs dropped by 19.0 percent per year in computers and office equipment and 14.3 percent per year in electronic components and accessories over the 1987–99 period. Communications equipment recorded a much more modest unit labor cost decline of 4.1 percent per year. The remaining high-tech manufacturing industries had changes in unit labor costs ranging from slight declines to moderate increases. The largest increases occurred in drugs, where unit labor costs increased 4.0 percent per year, and industrial organic chemicals, which saw an average annual increase of 3.4 percent.

Multifactor productivity

The amount and complexity of the data calculations required for multifactor productivity measures are much greater than those for labor productivity. The growth rate of multifactor productivity can be expressed as the growth rate of output less the growth rate of combined inputs. The combined inputs measure is a weighted average of labor hours, capital services, and intermediate purchases, with weights being the input's share in the cost of output. In this section, we calculate multifactor productivity for the high-tech sector within manufacturing.

As noted earlier, intrasectoral transactions have not been removed from the high-tech manufacturing sector aggregate. In order to quantify the possible bias arising from our inclusion of the intrasectoral transactions, we independently estimated multifactor productivity growth for the high-tech sector by aggregating industry level productivity data.[26] The results indicate that the high-tech sector's adjusted multifactor productivity growth rate may be somewhat higher than the rate reported in this article.[27]

During the 1987–99 period, multifactor productivity in overall manufacturing grew 1.3 percent per year, on average. (See table 2.) Over the same period, the multifactor productivity growth rate in high-tech manufacturing was 5.0 percent per year. Although combined inputs grew somewhat faster in the high-tech industries than in manufacturing as a whole, output grew more than twice as rapidly in the high-tech sector than it did in overall manufacturing.

Multifactor productivity growth accounted for more than 60 percent of the 8.0 percent per year growth in high-tech output. (See table 3.) Combined inputs grew 2.8 percent per year and accounted for somewhat less than 40 percent of output growth. In contrast, input growth was responsible for the majority of output growth in manufacturing as a whole. Combined inputs growth contributed 60 percent of the 3.3-percent annual growth rate in manufacturing output, while 40 percent of output growth resulted from increases in multifactor productivity.

The more rapid input growth in the high-tech sector relative to manufacturing was due to faster growth in capital services and intermediate purchases. Capital services in high-tech industries grew 5.2 percent per year, compared with 3.0 percent in total manufacturing. Intermediate purchases rose 4.0 percent per year in high-tech manufacturing, compared with 3.3 percent in manufacturing as a whole. Hours fell in the high-tech sector—slightly offsetting the effect of more rapid increases in capital and intermediate purchases on combined inputs—while hours in the total manufacturing sector were unchanged. In both sectors, intermediate purchases' share in the cost of output (the value of intermediate purchases as a percentage of the total value of output) remained about constant, while labor's cost share fell and capital's cost share increased. The decline in labor's share and the increase in capital's share of costs, however, were more pronounced in the high-tech sector than in manufacturing as a whole.

The pattern of multifactor productivity growth in the high-tech manufacturing sector during the 1990s parallels that of high-tech labor productivity—a strong increase in multifactor productivity during the first half of the decade was followed by an acceleration, led by extremely rapid output growth, in the second half. From 1990 to 1995, strong capital growth and moderate intermediate purchases growth in the high-tech manufacturing sector were partially offset by a substantial decline in labor hours of 3.8 percent per year. The resulting slow growth in combined inputs, coupled with output growth of 5.5 percent per year, yielded an average high-tech multifactor productivity growth rate of 4.5 percent per year over the subperiod.

In the second half of the decade, rapid increases in capital and intermediate purchases in the high-tech sector and a modest increase in labor hours led to a dramatic increase in the average annual growth rate of combined inputs, from 0.9 percent to 5.7 percent. Despite the rapid acceleration in combined inputs, much faster growth in high-tech manufacturing output led to an increase in the high-tech multifactor productivity growth rate to 8.1 percent per year over the 1995–99 period.

The overall manufacturing sector also experienced a substantial acceleration in multifactor productivity growth during the second half of the 1990s. Following an average increase of 1.2 percent per year from 1990 to 1995, multifactor productivity growth in manufacturing more than doubled in the latter portion of the decade—to 2.5 percent. The 1995–99 rate in manufacturing, however, was less than a third of the 8.1-percent rate in the high-tech sector over

the same subperiod.

The magnitude of the acceleration in high-tech manufacturing output and multifactor productivity growth that began in the mid-1990s works to obscure a more subtle difference between the early and late halves of the decade—a marked contrast in the sources of high-tech output growth in each period. From 1990 to 1995, for example, with combined input growth depressed by declines in labor hours, more than 80 percent of output growth resulted from increases in multifactor productivity, and less than 20 percent was due to increases in inputs. Over the 1995–99 period, by contrast, the share of high-tech manufacturing output growth attributable to multifactor productivity growth dropped to less than 60 percent, with combined inputs accounting for more than 40 percent of output growth over the period. These proportions for the high-tech sector in the second half of the 1990s are very similar to those found in the manufacturing sector as a whole for the subperiod.

As with labor productivity growth, multifactor productivity growth in the high-tech industries varied greatly within the sector. In computer and office equipment and electronic components and accessories, multifactor productivity growth rates far exceeded the overall high-tech sector rate. Six industries had rates of multifactor productivity growth that were less than the rate for total manufacturing. Two of the six industries experienced declines in multifactor productivity over the period, and in one industry it was unchanged.

Although most high-tech industries made some positive contribution to the high-tech sector labor productivity growth rate (the contribution of the industrial organic chemicals industry was so small it was negligible), this was not true for multifactor productivity. Table 4 shows that only the three information technology industries made significant positive contributions to high-tech multifactor productivity growth. Two industries had small positive effects on the sector's multifactor productivity growth, two had no effect, and three industries lowered the sector's overall growth rate. The electronic components and accessories industry had a multifactor productivity growth rate of 16.6 percent per year and contributed 2.6 percentage points to high-tech sector multifactor productivity growth from 1987 to 1999. The computer and office equipment industry had growth of 18.8 percent per year and contributed 2.4 percentage points to the sector multifactor productivity growth rate. Communications equipment contributed an additional 0.4 percentage points to the high-tech sector multifactor productivity growth rate.

It is interesting to note that while the high-tech multifactor productivity growth rate for the 1987–99 period was nearly 4 times the comparable rate for total manufacturing, it was more than 12 times the rate for the non-high-tech manufacturing industries. Chart 2 illustrates this point, showing multifactor productivity growth rates of 0.4 percent per year for non-high-tech manufacturing, 1.3 percent per year for total manufacturing, and 5.0 percent per year for high-tech manufacturing.[28]

Capital services

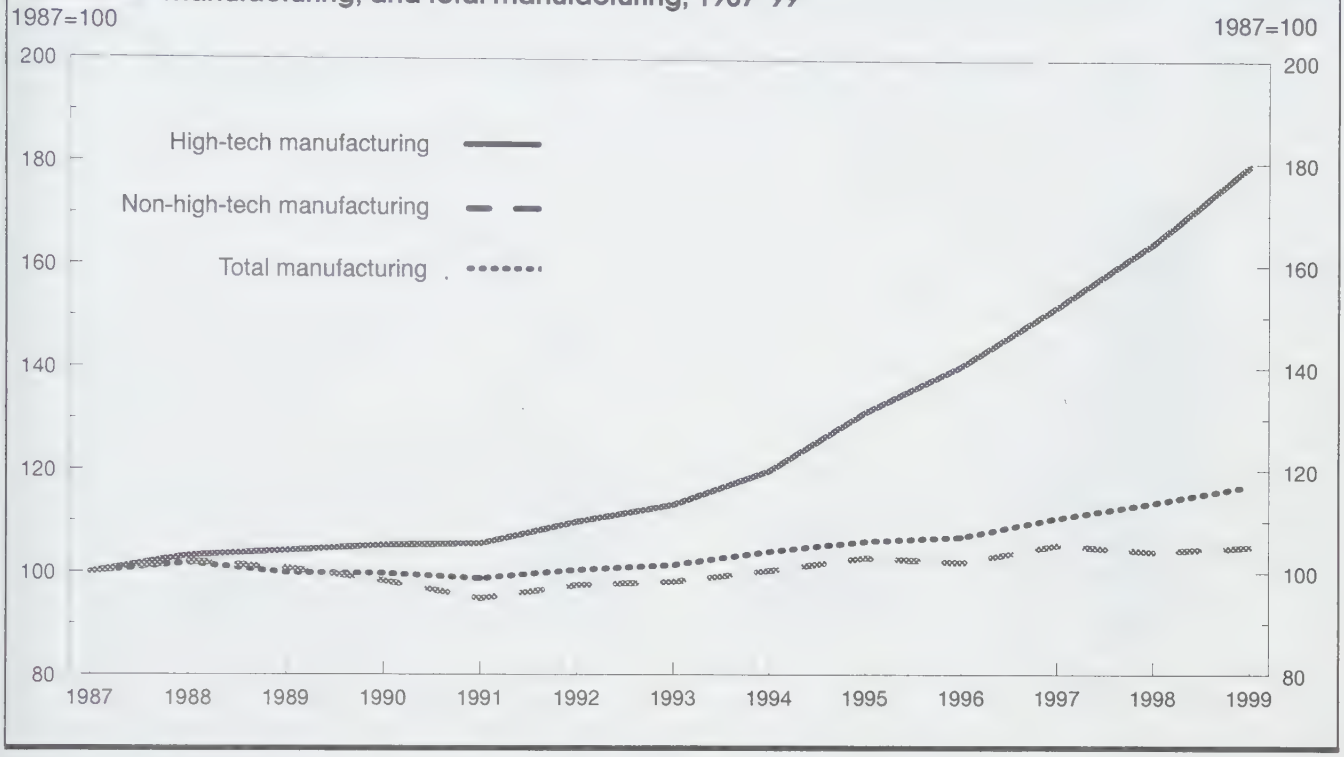
Capital is defined as the flow of services derived from the assets used in the production of an industry's or a sector's output. Capital increased at an average annual rate of 5.2 percent per year in the high-tech manufacturing sector from 1987 to 1999. In the manufacturing sector as a whole, capital increased at a rate of 3.0 percent per year over the period. The higher growth rate of capital input in high-tech manufacturing is consistent with the strong output growth found in that sector. Each of the four broad categories of capital assets—equipment, structures, inventories, and land—advanced more rapidly in the high-tech sector than in aggregate manufacturing over the study period.[29]

Capital services account for a larger share of total costs in the high-tech manufacturing sector than in manufacturing as a whole. Over the 1987–99 period, costs of capital services averaged 24 percent of total costs in high-tech manufacturing, compared with 19 percent in aggregate manufacturing. Capital services have become increasingly important in both high-tech and total manufacturing. In the high-tech sector, capital services rose from 21 percent of total costs in 1987 to 29 percent in 1999; in the aggregate manufacturing sector, the capital cost share rose from 17 percent to 21 percent over the period.

Capital growth in both the high-tech manufacturing and all-manufacturing sectors accelerated through the 1990s. From 1990 to 1995, capital in high-tech manufacturing increased at an average rate of 3.9 percent per year, while in the second half of the decade, it increased at a rate of 7.3 percent per year. Similarly, the rate of capital growth in overall manufacturing nearly doubled from the earlier to the later subperiod, increasing from an average annual rate of 2.4 percent during the first half of the decade to 4.4 percent per year during the second half.

Growth in capital services varied greatly among the high-tech industries. Five high-tech industries had increases in capital services that exceeded the increase in overall manufacturing, and one recorded an increase that about matched the all-manufacturing rate. The information technology industries, where output grew most rapidly, also had some of the largest increases in capital over the period. Electronic components and accessories recorded growth in capital of 9.0 percent per year, the highest rate of increase among all the manufacturing industries for which data were available.

Chart 2. Index of multifactor productivity in high-tech manufacturing, non-high-tech manufacturing, and total manufacturing, 1987–99



The remaining two information technology industries, communications equipment and computer and office equipment, had capital growth rates of 5.3 and 6.2 percent per year, respectively. Capital also increased at a rapid rate in the drug industry (6.0 percent), despite only moderate output growth that about equaled the average for total manufacturing. Although they essentially had flat output growth over the period, industrial organic chemicals and aircraft and parts had increases in capital near the all-manufacturing average. Capital declined in industrial inorganic chemicals; guided missiles, space vehicles and parts; and search and navigation equipment. The latter two industries also had substantial declines in output over the period.

Average annual output growth in the high-tech manufacturing sector exceeded the rate of capital growth over the period (8.0 percent versus 5.2 percent). As a result, capital productivity—output per unit of capital—rose 2.7 percent per year over the period. In the aggregate manufacturing sector, output growth of 3.3 percent per year and capital growth of 3.0 percent produced an increase in capital productivity of just 0.3 percent per year.

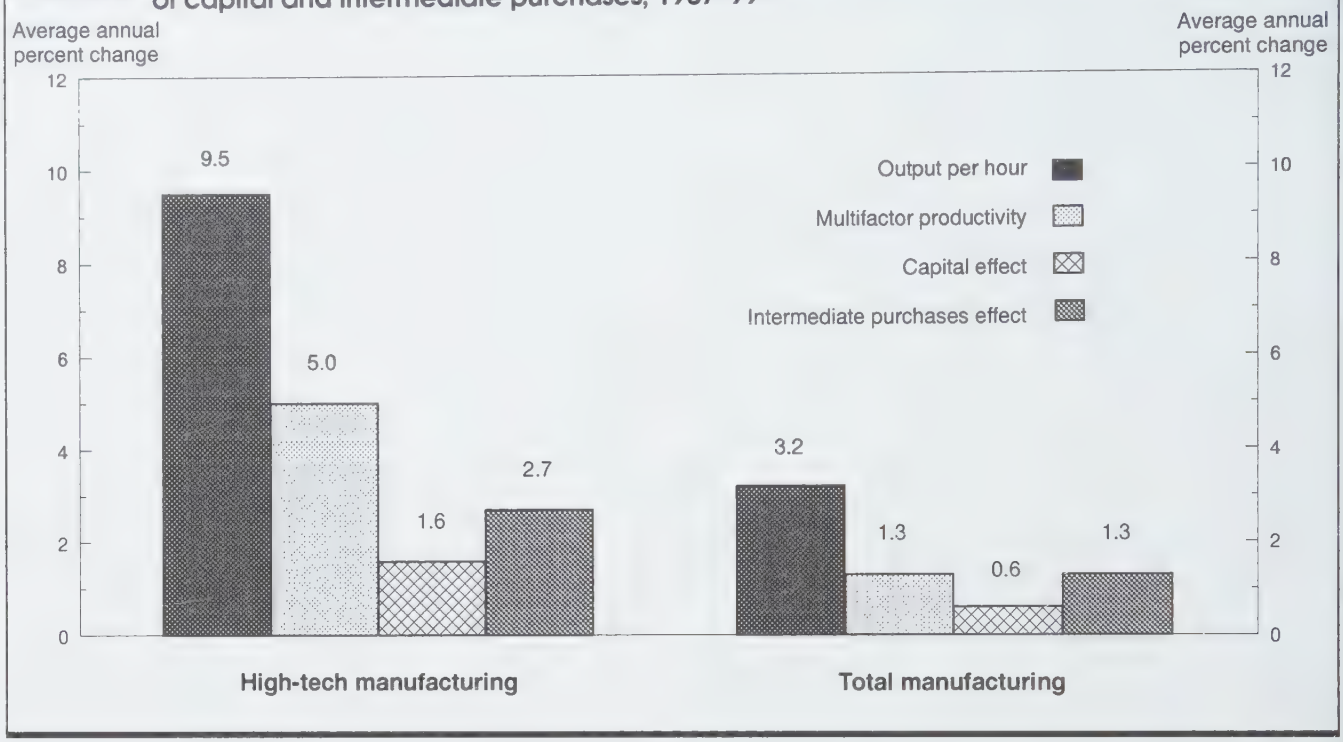
The better performance of capital productivity in high-tech manufacturing developed entirely in the second half of the 1990s. Capital productivity in both the high-tech and aggregate manufacturing sectors dipped toward the middle of the period and then rose again. From 1987 to 1994, average capital productivity growth in aggregate manufacturing exceeded that in the high-tech manufacturing sector. From 1994 to 1999, however, capital productivity in the high-tech sector increased rapidly, while in the aggregate manufacturing sector it stagnated.

Intermediate purchases

Intermediate purchases include the materials, purchased services, fuels, and electricity used in the production process. To support production in the high-tech manufacturing sector, intermediate purchases inputs increased at an average rate of 4.0 percent per year from 1987 to 1999. In manufacturing as a whole, intermediate purchases inputs rose an average of 3.3 percent per year.

Although the growth of intermediate purchases over the entire study period (1987–99) was similar in both high-tech and total manufacturing, the two sectors exhibited very different patterns in this measure during the 1990s. Intermediate purchases in high-tech manufacturing increased only 2.3 percent per year during the first half of the 1990s, but the rate more than tripled during the second half (7.0 percent). Intermediate purchases growth in overall manufacturing, by contrast, dropped from a rate of 3.5 percent per year in the first part of the decade to 2.6 percent per year during the second part.

Chart 3. Output per hour (labor productivity) equals multifactor productivity plus the effects of capital and intermediate purchases, 1987–99



Within the high-tech sector, there is a great deal of variation with respect to intermediate purchases among the component industries. In the five high-tech industries in which the rate of output growth matched or exceeded that of overall manufacturing—the three information technology industries, drugs, and measuring and controlling devices (SIC 382)—intermediate purchases grew rapidly over the 1987–99 period, at rates ranging from about 5 percent to nearly 10 percent per year. The remaining high-tech industries had increases in intermediate purchases below the manufacturing sector average, and intermediate purchases declined in the two industries with significant output declines over the period: guided missiles, space vehicles and parts; and search and navigation equipment.

Because high-tech manufacturing output increased more rapidly than inputs of intermediate purchases in that sector, intermediate purchases productivity rose 3.8 percent per year from 1987 to 1999. However, within the high-tech sector, only computer and office equipment and electronic components and accessories had substantial increases in intermediate purchases productivity, averaging 16.5 percent and 16.3 percent per year, respectively. Among the remaining high-tech manufacturing industries, three had small increases (less than 1 percent per year) in intermediate purchases productivity over the period, while five had small declines (1 to 2 percent per year).

Relating multifactor and labor productivity

Multifactor productivity analysis provides additional insights into the sources of growth in labor productivity. Changes in the quantity of capital services per hour and changes in intermediate purchases per hour are important sources of growth in labor productivity. The influence of capital per hour on labor productivity is known as the *capital effect*. Similarly, the effect of changes in the ratio of intermediate purchases to labor hours on labor productivity is known as the *intermediate purchases effect*. The capital effect is measured as the change in the ratio of capital to labor hours multiplied by capital's share in the value of output, and the intermediate purchases effect is equal to the change in the ratio of intermediate purchases to labor hours multiplied by the intermediate purchases share in the value of output. The sum of the capital effect, the intermediate purchases effect, and multifactor productivity growth approximately equals the growth in labor productivity.[30]

As can be seen in chart 3, among the three components of labor productivity change, the largest contributor in the high-tech sector was multifactor productivity, which accounted for more than half (5.0 percentage points) of the 9.5-percent average annual growth rate in labor productivity. The second most important contributor was the intermediate purchases effect, which accounted for nearly a third (2.7 percentage

Table 5. High-tech manufacturing industry performance relative to all manufacturing industries, 1987–99

Quintile	Output	Hours	Output per hour	Unit labor costs	Multi-factor product-ivity	Combined inputs	Inter-mediate purchases per hour	Capital per hour
1	3	1	6	2	4	5	7	8
2	3	1	2	0	1	0	1	1
3	0	2	0	1	1	1	2	1
4	0	3	0	2	2	1	0	0
5	4	3	2	5	2	3	0	0

NOTE: For each column-head variable, the set of all 140 three-digit SIC manufacturing industries was ranked according to each industry's average annual percent change for the 1987–99 period. The rankings were then divided into quintiles, each containing about 28 industries. The first quntile represents the most rapid growth, and the fifth quintile the slowest growth. The number of high-tech industries in each quntile is shown in the columns.

points) of the growth in labor productivity over the period.

In contrast, the intermediate purchases effect and multifactor productivity growth each contributed about equally to the growth of labor productivity in the manufacturing sector as a whole. The intermediate purchases effect and multifactor productivity each contributed 1.3 percentage points (2.6 points combined) to the labor productivity growth rate of 3.2 percent per year in manufacturing.

In both manufacturing and high-tech manufacturing, the capital effect made the smallest contribution to labor productivity growth, in each case accounting for just 15 to 20 percent of the labor productivity increase. In manufacturing, the capital effect contributed 0.6 percentage points of the average labor productivity growth of 3.2 percent per year. In the high-tech sector, the capital effect contributed 1.6 percentage points to the average labor productivity growth of 9.5 percent per year. In the high-tech sector, growth in the capital-labor ratio exceeded growth in the ratio of intermediate purchases to labor. However, the intermediate purchases' share in output was twice that of capital and therefore resulted in a much larger intermediate purchases effect.

High-tech industry characteristics

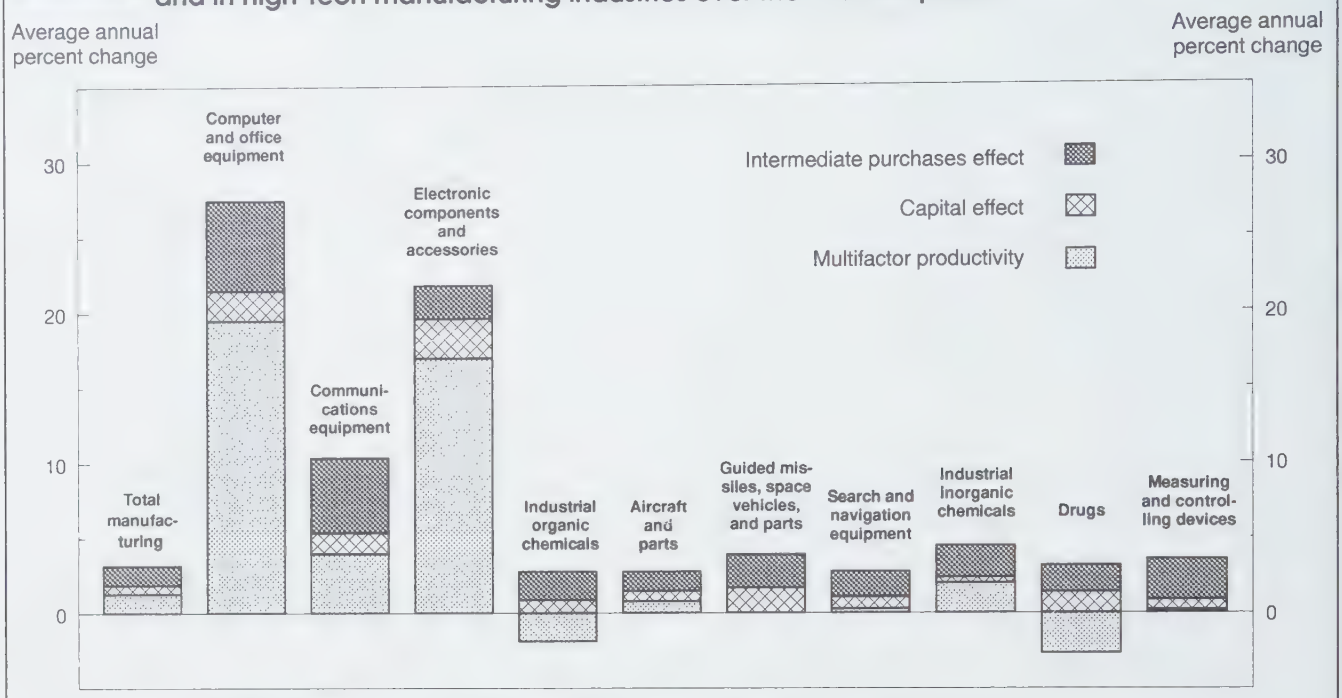
The high-tech manufacturing sector analyzed in this article is made up of industries with a high proportion of workers engaged in research and development activities and in technology-oriented occupations. It has been demonstrated that the high-tech manufacturing sector contrasts sharply with overall manufacturing in virtually all measures. Yet, the high-tech sector analyzed here is made up of industries that are far from uniform and vary widely in their characteristics and performance. In fact, the performance of some of the high-tech manufacturing industries appears to be closer to the non-high-tech industries than it is to other high-tech industries.

This raises the question of whether or not the high-tech industries have any commonalities beyond the research and development and technology-oriented employment criteria used to classify them as such. Prompted by this question, we ranked all of the manufacturing industries according to their performance on each of the key measures analyzed in this article and divided the ranked industries into quintiles. The results of this analysis are shown in table 5, and they illustrate that high-tech manufacturing industries do indeed share several key characteristics and tendencies.

The most striking commonality is the tendency of high-tech industries to have more rapid rates of growth in the ratios of intermediate purchases to labor and capital to labor than do the non-high-tech industries. Conversely, hours in the high-tech industries tended to decline more rapidly than (or not to grow as quickly as) hours in the non-high-tech industries. Another feature of high-tech industries is their tendency to outperform non-high-tech manufacturing industries in output per hour and unit labor costs. Output per hour is more likely to grow more rapidly, and unit labor costs are more likely to grow more slowly (or decline more rapidly) in high-tech industries than in other manufacturing industries.

Still, the mediocre (or sometimes poor) productivity performance of some high-tech manufacturing industries is puzzling. It is not clear why some manufacturing industries

Chart 4. Components of labor productivity (output per hour) growth in total manufacturing and in high-tech manufacturing industries over the 1987–99 period



NOTE: Output per hour equals multifactor productivity plus the effects of capital and intermediate purchases.

that employ such high proportions of research and development workers and highly skilled, technology-oriented workers should be experiencing such unremarkable productivity performance over an extended period. One possible explanation involves the difficulty of accurately measuring price and output movements in rapidly-changing industries, a problem we mentioned earlier.

BLS and others have devoted particular attention to the measurement of prices for information technology. It is possible that changes in price and/or quality are not captured as well for some high-tech industries as others. Medical care prices generally and pharmaceutical prices in particular have generated a lot of concern, both at BLS and among outside researchers. Research has addressed instances where there may have been biases in producer price indexes (PPIs) for particular drugs or classes of drugs.[31] During the 1990s, BLS made some changes in the way these prices are handled in the indexes, but these changes were not incorporated into the data for earlier years.[32] Such biases in the PPIs would affect the productivity measures reported here because in many cases PPIs are used to deflate output measures when calculating industry productivity growth.[33]

Another possible explanation is that, in some cases, the skills of research and development and technology-oriented employees may be directed toward the marketing of products or development of superficially differentiated existing products rather than on the development of new products or production processes. A third possible explanation for the poor performance of some high-tech industries is that the returns from the high-tech workers they employ and the research and development they undertake are not yet evident, but will appear in the future.

It also should be noted that two of these high-tech industries experienced substantial output declines over the period (guided missiles, space vehicles, and parts; and search and navigation equipment); one experienced a very small decline (industrial organic chemicals); and one experienced a very small increase (aircraft and parts). It can be difficult for industries to maintain productivity growth in the face of flat or declining output. BLS data show that industries with long-term declines in output are more likely to record productivity declines than are industries in which output is growing. Despite this disadvantage, all four of these high-tech manufacturing industries recorded labor productivity increases, although their performance with respect to multifactor productivity was much less positive—only one had even a modest increase in multifactor productivity over the period, and one had a substantial decline. It also is worth mentioning that in three of these

industries—aircraft and parts; guided missiles, space vehicles, and parts; and search and navigation equipment—a major underlying cause of the output decline was unrelated to industry performance. Following the end of the Cold War in the late 1980s, real defense spending fell sharply. Because these three industries are significantly tied to defense-related purchases, the retrenchment in spending contributed to substantial contractions in their output over the period of this study.[34]

Among the 10 high-tech manufacturing industries analyzed in this study, the dramatic differences in performance between the 3 information technology industries and the remaining 7 industries are illustrated by chart 4, which shows labor productivity growth and its components for the manufacturing sector and the 10 high-tech manufacturing industries. The chart depicts the three information technology industries, followed by the four industries with negative or weak output growth, and finally, the remaining three industries. For each industry, labor productivity growth is equal to the sum of multifactor productivity growth, the capital effect, and the intermediate purchases effect. When all three components of labor productivity growth are positive, the level of the labor productivity growth rate is shown by the total of the bar. For the two industries with negative multifactor productivity growth rates, the labor productivity growth rate falls below the top of the bar because the negative multifactor productivity component offsets the combined intermediate purchases and capital effects.

The chart shows that the information technology industries had extremely rapid labor productivity and multifactor productivity growth, well above the average for manufacturing. The seven remaining industries, however, present a much more mixed picture with respect to productivity performance. While all had positive labor productivity growth, only three exceeded the productivity growth rate for the overall manufacturing sector. In addition, only one had multifactor productivity growth above the all-manufacturing average, and two actually had substantial multifactor productivity declines.

Among the seven non-information-technology industries in the high-tech sector, the four with weak or negative output growth achieved positive labor productivity growth by virtue of reductions in labor input. The other three industries—industrial inorganic chemicals, drugs, and measuring and controlling devices—all had healthy output growth (about 3 percent per year). Two of these, industrial inorganic chemicals and measuring and controlling devices, combined output increases with reductions in labor input, and their resulting labor productivity growth rates exceeded the average rate for the manufacturing sector. In contrast, the drug industry was the only high-tech industry to have a substantial increase in labor input, and it also had among the most rapid growth in capital and intermediate purchases. Consequently, drugs recorded the most rapid increase in combined inputs in the high-tech manufacturing sector. Because this rapid increase in inputs occurred in combination with output growth about equal to the manufacturing-sector average, however, labor productivity growth in this industry was below the average for the manufacturing sector as a whole, and multifactor productivity declined over the period. Perhaps this poor productivity performance can be tied to the output price measurement problem discussed previously.

IN SUM, labor and multifactor productivity growth in the high-tech manufacturing sector were dominated by trends in three information technology industries: computer and office equipment; electronic components and accessories; and communications equipment. Three of the remaining seven high-tech manufacturing industries performed somewhat better than total manufacturing with respect to growth in labor productivity and unit labor costs. At the same time, there was a markedly different use of resources in high-tech manufacturing industries than in total manufacturing. Capital services and intermediate purchases in the high-tech sector grew more rapidly relative to labor input than was the case in total manufacturing. Despite strong output growth in high-tech manufacturing, employment in the high-tech sector declined over the period, while employment in the manufacturing sector as a whole remained essentially flat.

It should be emphasized that the results presented in this study are sensitive to the period analyzed. Because data for the measures analyzed are not yet available for a full business cycle, the results reported may reflect some cyclical influences. On the other hand, 1987 and 1999 both were years well into the business expansions of the 1980s and 1990s, respectively, so cyclical influences are likely to be small. Future analyses along these lines will benefit from updated measures as they become available. □

Notes

[1] William Luker, Jr. and Donald Lyons, "Employment shifts in high-technology industries," *Monthly Labor Review*, June 1997, pp. 12–25.

[2] This growth rate refers to high-tech manufacturing industries classified on the basis of employment of certain types of workers. The criteria for identifying high-tech industries will be discussed in detail later in this article.

[3] Labor productivity measures should not be interpreted as representing the contribution of labor to production. Changes over time in labor productivity reflect a number of factors, including substitution of other inputs, such as capital and intermediate purchases, for labor in the production process; changes in the organization of production; changes in the allocation of resources between sectors; the direct and indirect effects of research and development; and the development of new technology.

[4] Several factors may affect the multifactor productivity residual, such as technical innovation, economies of scale, labor composition changes (which are not accounted for in the measures analyzed here), organizational and institutional change, fluctuations in demand, omitted variables, and measurement errors.

[5] Executive Office of the President, Office of Management and Budget, *Standard Industrial Classification Manual 1987*. Data from the 1997 Economic Census of Manufactures were published primarily on the basis of the new North American Industry Classification System (NAICS); earlier censuses were published according to the Standard Industrial Classification (SIC) system. Implementation of NAICS by Federal agencies will be in phases. In order to update the three-digit industry productivity series used in this article, BLS converted the NAICS-based manufacturing data to an SIC basis. BLS will continue to publish the productivity series on an SIC basis until all the data underlying the productivity series have been converted to a NAICS basis.

[6] Multifactor productivity and related measures for the 108 industries for which the data meet BLS publication standards were published in *Multifactor Productivity Measures for Three-digit SIC Manufacturing Industries*, Report 956 (Bureau of Labor Statistics, January 2002). This article makes use of the data for all 140 three-digit manufacturing industries, including the 32 industries for which data have not been published.

[7] Data limitations prevented the development of productivity series for many industries prior to 1987. Data requirements for calculating multifactor productivity are even greater, further constraining the industrial detail for which these series are available.

[8] For a discussion of these issues, see, for example, Andrew W. Wyckoff, "The impact of computer prices on international comparisons of labour productivity," *Economics of Innovation and New Technology*, Overseas Publishers Association, 1995, vol. 3, pp. 277–93; Jack Triplett, "High-tech industry productivity and hedonic price indices," chapter 4 in *Industry Productivity: International Comparison and Measurement Issues* (Organization for Economic Co-operation and Development (OECD), Paris, October 1996), pp. 119–42. On the Internet at **http://www.oecd.org/dsti/sti/stat-ana/prod/**; Bruce T. Grimm, "Price Indexes for Selected Semiconductors, 1974–96," *Survey of Current Business* (Bureau of Economic Analysis, February 1998), pp. 8–24; Ernst R. Berndt, Zvi Griliches, and Joshua G. Rosett, "Auditing the Producer Price Index: Micro Evidence from Prescription Pharmaceutical Preparations," *Journal of Business and Economic Statistics*, July 1993; and William Gullickson and Michael J. Harper, "Possible measurement bias in aggregate productivity growth," *Monthly Labor Review*, February 1999, pp. 47–67.

[9] Richard W. Riche, Daniel E. Hecker, and John U. Burgan, "High technology today and tomorrow: a small slice of the employment pie," *Monthly Labor Review*, November 1983, pp. 50–58. (See page 51 and footnote 1.)

[10] *Technology, Innovation, and Regional Economic Development*, (United States Congress, Office of Technology Assessment), September 9, 1982.

[11] Thomas Hatzichronoglou, "Revision of the High-Technology Sector and Product Classification," *STI Working Papers* (Organization for Economic Co-operation and Development, 1997, pp. 1–25).

[12] Daniel Hecker, "High-technology employment: a broader view," *Monthly Labor Review*, June 1999, pp. 18–28; quote, p. 19.

[13] In 1999, employment in SIC 357, computer and office equipment, accounted for 14.2 percent of total employment in SIC 35, industrial and commercial machinery and equipment and computer equipment; SIC 366, communications equipment, and SIC 367, electronic components and accessories, accounted for 8.6 percent and 20.6 percent, respectively, of total employment in SIC 36, electronic and other electrical equipment and components.

[14] Calculations based on the data underlying *Productivity and Costs, Third Quarter 2001*, USDL 01–452 (U.S. Department of Labor), December 6, 2001.

[15] Riche, Hecker, and Burgan, "High technology today and tomorrow"; Paul Hadlock, Daniel Hecker, and Joseph Gannon, "High technology employment: another view," *Monthly Labor Review*, July 1991, pp. 26–30; Luker and Lyons, "Employment shifts in high-technology"; Hecker, "High-technology employment."

[16] National Science Board, *Science and Engineering Indicators–1998* (Arlington, VA, National Science Foundation, 1998).

[17] Hecker, "High-technology employment."

[18] The earlier study listed only eight separate manufacturing industries because several three-digit manufacturing industries were grouped together: industrial inorganic chemicals and industrial organic chemicals (SICs 281 and 286) were combined to form industrial chemicals; and aircraft and parts and guided missiles, space vehicles, and parts (SICs 372 and 376) were combined to form aerospace. When considered on its own (that is, when not combined with industrial organic chemicals), industrial inorganic chemicals meets one but not both criteria for inclusion in the set of high-tech intensive industries – the proportion of technology-oriented workers falls slightly below the cut-off proportion. For purposes of consistency with the earlier study, however, this industry is nevertheless included in the high-tech manufacturing sector as defined in this article.

[19] See chapters 10 and 11 of Bureau of Labor Statistics, *BLS Handbook of Methods*, Bulletin 2490, April 1997 (on the Internet at: **http://stats.bls.gov/opub/hom/homhome.htm**). One significant difference between the two data sets that affects the comparisons of trends in capital services in high-tech manufacturing and total manufacturing is noted later in this article. (See footnote 29.)

[20] More precisely, logarithmic growth rates are additive. The average annual compound growth rates used in this analysis are approximately equal to the logarithmic growth rates, thus conceptually additive, when the growth rates are "small."

[21] For a discussion of this issue, see William Gullickson, "Measurement of productivity growth in U.S. manufacturing," *Monthly Labor Review*, July 1995, pp. 13–28.

[22] The issue of the potential effect of not removing intrasectoral transactions from the high-tech aggregate estimates is discussed briefly in the section on multifactor productivity.

[23] Although the composition of labor input may be influenced by changes in factors such as training, experience, and education, the data used in this article treat labor input as a homogeneous factor. Thus, employee hours are weighted equally; no distinction is made between workers in different industries or with different skill levels or wages. The effects of changes in labor composition are included in the productivity residual.

[24] In "High-technology employment," Hecker reported an increase of 3 percent in employment in high-tech intensive industries between 1986 and 1996. However, Hecker's high-tech intensive subset includes two service-producing industries, computer and data processing services (SIC 737) and research, development, and testing services (SIC 873). If these two industries, which recorded employment gains over the period, are excluded, the earlier BLS study's data also show employment in high-tech intensive manufacturing industries to be falling.

[25] The small incompatibilities in the two data sets used make direct comparisons of levels of high-tech and total manufacturing hours problematic. Hours series for the industry data used to develop the high-tech sector measures are on an hours-paid basis and

cover only employees, or wage and salary workers. Hours for the manufacturing sector as a whole are adjusted to an hours-worked basis and include hours worked by proprietors and unpaid family workers in addition to those worked by wage and salary workers. See *BLS Handbook of Methods*, chapters 10 and 11, for an overall description of the measures. While these differences may affect comparisons of the levels of hours worked, they are not likely to significantly affect comparisons of trends or growth rates over the period studied given that proprietors' and unpaid family workers' share of employment is small in manufacturing and there was little trend in the ratio of hours worked to hours paid for this period.

[26] See Evsey D. Domar, "On the measurement of technological change," *Economic Journal*, 1961, pp. 709–29. Using this method, sector multifactor productivity growth is the weighted sum of the component industry multifactor productivity growth rates, where the weights are the ratios of each industry's value of production to the sector's value of production (the sum of the industries' value of production is greater than the sector net value of production, thus the industry weights sum to more than 1).

[27] A Domar aggregation of component industry growth rates yielded a high-tech multifactor productivity growth rate of 5.8 percent per year over the period 1987 to 1998. Over the same period, multifactor productivity growth in the high-tech aggregate constructed for this article (unadjusted for intrasectoral transactions) averaged 5.1 percent per year. The difference between the adjusted (Domar-weighted) and unadjusted multifactor growth rates, or 0.7 percent per year, represents an estimate of the bias arising from failing to adjust the high-tech manufacturing aggregate for intrasectoral transactions.

[28] The multifactor productivity growth rate for the "non-high-tech sector" is a Domar-weighted aggregate of the multifactor productivity growth rates of the 130 non-high-tech manufacturing industries. The multifactor productivity growth rates of the high-tech and non-high-tech sectors are not additive.

[29] In addition to equipment, structures, inventories, and land, the BLS capital measures for the aggregate manufacturing sector treat computer software as a capital asset and thus include capital services from software. Data limitations prevent the inclusion of software in capital services for the three-digit industry capital measures used for the high-tech manufacturing industries. This difference could significantly affect the comparison of trends in high-tech manufacturing and aggregate manufacturing capital input in this article. Since software has been growing more rapidly than most other asset types over the period studied, the likely effect of omitting software from the industry capital measures would be to bias the high-tech capital measures downward relative to overall manufacturing.

[30] See footnote 20.

[31] See, for example, Berndt, Griliches, Rosett, "Auditing the Producer Price Index." The pharmaceutical industry discussed in that article is characterized by rapid innovation and an institutional environment in which prices of newly introduced products tend to increase more slowly than prices of established products, or even to decline. The authors found that the BLS producer price index (PPI) for prescription pharmaceutical preparations was growing much more rapidly than several indexes of pharmaceutical prices they had constructed. This occurred, in part, because of an underrepresentation of new products in the PPI sample.

[32] Beginning in January 1996, the PPI program began using supplemental samples in order to improve the representation of new products in the pharmaceutical industry.

[33] If price increases over the period studied are overstated (or price declines understated), real output and productivity growth will be understated.

[34] For a discussion, see Allison Thomson, "Defense-related employment and spending, 1996–2006," *Monthly Labor Review*, July 1998, pp. 14–33. In 1987, with defense spending at a post-Vietnam War high, over half of employment in the search and navigation equipment and aerospace industries—aircraft and parts and guided missiles, space vehicles, and parts—was defense-related. By 1996, the proportion of defense-related employment in each of these industries had fallen sharply but remained substantial. (See tables 3 and 4.)

Bias in aggregate productivity trends revisited

Aggregate productivity trends were revised upward; it is now less clear whether bias exists, but some industries continue to show negative multifactor productivity trends

William Gullickson and Michael J. Harper

This article updates results presented in our February 1999 *Monthly Labor Review* article, "Possible bias in aggregate productivity growth."[1] In it, we determined that manufacturing could account for all of the multifactor productivity (MFP) growth during the 1979–96 period within the private business sector. The article identified industries outside of manufacturing with negative MFP trends and assessed their effects on aggregate productivity. We concluded that the negative MFP trends seemed at least somewhat implausible and might have reflected service output measurement problems.

This article reprises the methodology, summarizes the earlier findings, and presents new results. Besides including data through 1997, the new results reflect the comprehensive revisions of the National Income and Product Accounts published by the Bureau of Economic Analysis (BEA) in October 1999. Aggregate productivity now is growing faster, and it is less clear that there is an aggregate bias, but we still find negative MFP trends for some of the same industries. For other industries, we find surprisingly low MFP trends. This is probably indicative of problems with the measurement of some service industry outputs. It may also reflect the rapid growth in high tech inputs, such as computers and semiconductors, used by these industries.

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Outline of procedures

In the earlier article, we described the construction of estimates of MFP trends at both the industry and aggregate levels using available statistical agency data. MFP measures compare output trends with the trends in several inputs. A formal framework for MFP emerged from a 1957 paper by Robert Solow that discussed how to separate substitution among inputs from shifts in a production function.[2] MFP growth is designed to measure the joint influences on economic growth of numerous factors that people associate with productivity, such as technological change, efficiency improvements, returns to scale, and reallocation of resources. At the aggregate level, the principal inputs are labor and capital, while at the industry level, inputs also include materials and services purchased from other industries. Data are organized in a framework proposed by Evsey Domar in 1961.[3] Domar showed how data on the inputs and outputs of various industries that buy goods and services from one another can be used to measure industry MFP trends and to construct and account for aggregate MFP trends.[4]

Earlier findings

In the earlier article we carried out two main data exercises. One was a "top side" exercise, which showed that all of the private business MFP growth between 1979 and 1996 could be accounted for by MFP growth in manufacturing. This implied that the rest of the private business sector had no overall MFP growth.

Table 1. Output per hour of all persons in major U.S. sectors, compound annual rates of change

Period	Business	Nonfarm business	Manufacturing
1947–2001[1]	2.5	2.2	2.8
1947–60[1]	3.3	2.7	2.0
1960–73	3.3	3.0	3.0
1973–79	1.3	1.2	2.2
1979–2001	1.8	1.7	3.2
1979–90	1.5	1.4	2.6
1990–95	1.5	1.5	3.2
1995–2001	2.6	2.4	4.1

[1] Data for manufacturing trends begin in 1949.

Table 2. Multifactor productivity trends in aggregate U.S. sectors

Period	Private business	Private nonfarm business	Manufacturing
1949–2000	1.4	1.2	[1]1.2
1949–73	2.1	1.9	1.5
1973–79	.6	.4	−.6
1979–90	.5	.3	1.1
1990–95	.6	.6	1.2
1995–99	1.2	1.1	2.5
1995–2000	1.4	1.2	[1]

[1] Data are not available for this industry during this period.

The second "industry exercise" constructed estimates of MFP trends at roughly the two-digit industry level. We identified the goal of determining which nonmanufacturing industries had negative MFP trends. After we identified industries with negative MFP trends, we sought to determine the extent to which each contributed to the relatively slow aggregate MFP trend. Working on the premise that *output* in these industries was measured with error, we simulated the adjustment of industry *output trends* enough to pull up the negative industry *MFP trends* to zero. This would have raised the aggregate MFP trend for 1979–92 by 0.44 percent.

In this earlier work, the industries with significant negative MFP trends, in order of their downward effects on aggregate MFP, were construction, insurance, banking, utilities, and health services. We argued that long-term negative MFP trends were implausible for these industries. We did consider some alternative measurement problems that might have led to negative MFP trends, but concluded that "...there is good reason to suspect that bias in output quantity/price (trend) allocation is a dominant explanation...."

The new results

The tables accompanying this article correspond to the tables in the *earlier* article. Tables 1 and 2 present measures of output per hour and MFP, respectively, at the aggregate level. It has been widely noted that the 1999 BEA revisions raised the productivity trends. The size of the "raise" varied by period, but it was generally between 0.3 and 0.6 percent per year in various selected periods since 1979. The "raise" is attributable to three changes made by BEA: the introduction of "research CPIs [Consumer Price Indexes]" to the deflation process; the reclassification of software as capital; and the use of Bureau of Labor Statistics data on banking transactions in measuring banking output. The BEA revisions partially address the issues we raised in our *earlier* article. In the aggregate exercise worked out in the new table 3, now, we find nonmanufacturing contributing 0.5 percent per year to the business MFP trend between 1990 and 1995 and 0.6 percent during the 1995–99 period. These trends are up from zero in the earlier data presented in the *Monthly Labor Review*.

Turning to the "industry exercise," first, our method develops what we call "BLS output based" MFP trends from input and output estimates for each industry.[5] We also develop what we call "BEA output based" MFP trends by adjusting the BLS MFP trends for consistency with the latest data on gross output from the BEA "gross product originating" program.[6] In the discussion here, we emphasize the "BEA output based" MFP trends.

The overall increase in the MFP trend appears to be supported by the revised "industry exercise," summarized in table 4.[7] As in the earlier article, we caution readers that the data associated with our industry exercise (presented in tables 4, 6, and 7) should not be taken at face value. Rather, the point of the industry exercise is to help determine how weaknesses in economic statistics may affect the aggregate productivity picture. We compare one-digit industry data in the "new" table 4 with those in the "old" table 4 from the 1999 *Monthly Labor Review* article in the following tabulation, which estimates BEA and BLS based output trends:

	BEA output based MFP trends	
	Old, 1977–92	*New, 1977–97*
Farms	1.7	2.3
Mining	–1.5	–.8
Construction	–.9	–.9
Manufacturing	.7	.6
Transportation	.2	.2
Communications	.9	.1
Utilities	–1.1	–.1
Trade	1.2	1.1
Finance, insurance, and real estate	1.3	–.5
Services	.2	–.5

	BLS output based MFP trends			
	Old, 1977–92	*New, 1977–92*	*New, 1992–97*	*New, 1977–97*
Farms	1.8	2.1	1.3	1.9
Mining	–1.2	–1.7	1.2	–1.0
Construction	–.4	–.4	–1.0	–.6
Manufacturing	.5	.5	1.5	.7
Transportation	.4	.2	–.2	.1
Communications	.4	–.6	.7	–.3
Utilities	–.3	–.7	–.1	–.5
Trade	1.1	.9	.3	.7
Finance, insurance, and real estate	–1.2	–.4	–.4	–.4
Services	.1	0.0	–.6	–.2

In the first two columns, four of the ten sectors (farms, mining, utilities, and finance) have "BEA output based" MFP trends for 1977–97 that are between 0.6 and 1.0 percent per year higher than the trends for 1977–92 reported in the earlier article. We might have expected the upward revisions to the aggregates to carry over broadly to the industry level—the BEA revisions tended to boost aggregate output trends and the extension of the time period to 1997 captures 2 years of the post-1995 productivity surge. In the final four columns of the tabulation, we use the more complete "BLS output based" data-set to examine the separate effects of revisions and extension of the time period. It is somewhat surprising to find MFP growing more slowly in five sectors during 1992–97 than it did during 1977–92. This is reminiscent of Robert Gordon's finding that the productivity acceleration of the late 1990s is confined to a limited number of sectors.[8]

Perhaps more surprising is the observation that, in the first two columns, the "BEA output based" MFP trends for 1977–97 are 0.7 and 0.8 percent per year *lower* in two sectors, services and communications, than they were for 1977–92 in the old data. In the same vein, there were only small trend revisions (0.1 percent or 0 percent) for construction, manufacturing, transportation, and trade. MFP compares output trends with input trends, and it occurred to us that strong input growth may help account for some of these low MFP trends. The first three columns of table 5 break out the BLS MFP trends into output and input trends.

Services and communications have 4.5 percent input growth trends. High tech inputs (information processing equipment and software) contributed much of this input growth in communications, while their contribution was less noteworthy in services.[9] It is possible that there was overinvestment in communications. However, we suspect that the methods used to measure and price the outputs in communications fail to capture quality change to the same degree as do the methods used to measure and price the inputs they employ. We shall return to the high tech issue shortly.

As in the earlier study, table 6 contains estimates of the

Table 3. Multifactor productivity (MFP) growth in the U.S. private business sector and the contributions of labor composition effects, manufacturing MFP growth, and nonmanufacturing MFP growth

Period	Private business MFP (1)	Private business labor composition effects (2)	Unadjusted private business MFP (3)	Manufacturing MFP (4)	Contributions to private business of:	
					Manufacturing (5)	Non manufacturing (6)
1949–99	1.4	0.2	1.6	1.2	0.6	1.0
1949–73	2.1	.2	2.3	1.5	.8	1.5
1973–79	.6	0	.6	–.6	–.3	.9
1979–90	.5	.3	.8	1.1	.5	.3
1990–95	.6	.4	1.0	1.2	.5	.5
1995–99	1.2	.3	1.6	2.5	1.0	.6

Table 4. Estimates of multifactor productivity trends in U.S. industries, selected periods

[Compound annual growth rates of MFP]

SIC code	Industry	Main source of output estimates:			
		Bureau of Labor Statistics			Bureau of Economic Analysis
		1947–63	1963–77	1977–97	1977–97
1, 2	Farms	2.0	0.8	1.9	2.3
10–14	Mining	1.0	–1.4	–1.0	–.8
10	Metal mining	–	–1.3	2.1	2.0
11, 12	Coal mining	–	–1.9	3.0	2.9
13	Oil and gas extraction	–	–1.5	–2.2	–1.8
14	Nonmetallic minerals, excluding fuels	–	–.1	.5	.5
15–17	Construction	1.1	–1.1	–.6	–.9
20–39	Manufacturing	.8	.6	.7	.6
24, 25, 32–39	Durable manufacturing	.6	.7	1.1	1.1
20–23, 26–31	Nondurable manufacturing	.9	.5	.3	.2
40–47	Transportation	1.6	1.4	.1	.2
40	Railroad transportation	–	2.0	1.4	4.7
41	Local and interurban passenger transit	–	2.2	–.6	–1.5
42	Trucking and warehousing	–	.7	–.5	.6
44	Water transportation	–	1.1	.7	.9
45	Transportation by air	–	1.8	.4	.7
46	Pipelines, excluding natural gas	–	1.8	.1	–1.0
47	Transportation services	–	–.2	.1	0
48	Communications	3.2	2.4	–.3	.1
49	Electric, gas, sanitary services	3.5	.7	–.5	–.1
50–59	Trade	1.7	2.2	.7	1.1
50, 51	Wholesale trade	–	2.1	1.6	1.3
52–59	Retail trade	–	2.1	0	1.0
60–67	Finance, insurance, and real estate	.7	.6	–.4	–.5
60, 61, 67	Credit agencies, holding companies	–	.6	.1	–.5
62	Security, commodity brokers	–	–1.1	.3	1.5
63	Insurance carriers	–	1.5	–2.4	–.8
64	Insurance agents, brokers, and services	–	2.8	–1.1	–4.9
65–66	Real estate	–	.5	.1	.1
7-9, 70–89	Services	.4	–.6	–.2	–.5
7–9	Agricultural services, forestry, fishing	–	.3	1.1	.8
70	Hotels and other lodging places	–	.8	–2.2	–1.3
72	Personal services	–	1.5	.2	.6
73, 76	Business and miscellaneous repair services	–	–.7	–1.0	–1.0
75	Auto repair, services, and garages	–	–1.4	–.4	–1.4
78	Motion pictures	–	–1.0	.5	.4
79	Amusement and recreation services	–	–.1	.4	1.0
80	Health services	–	–1.7	–.6	–.6
81, 83–89	Legal and other professional services	–	–.5	1.0	–.2
82	Educational services	–	–.8	0	.8

contributions of each industry's productivity to private business MFP. These "Domar" contributions weight each industry's MFP trend by a ratio indicative of the industry's relative importance in the aggregate sector.[10] *If all of the underlying data were assumed to be correct, the Domar contributions would be the bona fide contributions of the industries to aggregate productivity.*

Table 6 of the article shows results to the nearest 0.1 percent and shows only those industries that make nonzero contributions in at least one time period.[11] Some industries (construction; finance, insurance and real estate; and business services) make negative contributions. Thus, this would

Table 5. "BLS output based" trends in multifactor productivity (MFP), outputs and inputs, and the point contributions of specific input categories to the trend in input growth, 1977–97, annual rates

Sector	Trends			Point contributions to input growth			
	MFP	Output	Input	Information processing equipment and software	Other capital	Labor	Intermediate inputs
Farm	1.9	1.7	–0.2	0.02	–0.18	–0.16	0.14
Mining	–1.0	.3	1.3	.29	.41	–.29	.94
Construction	–.6	1.2	1.8	.05	–.03	.76	.98
Manufacturing	.7	2.5	1.8	.15	.18	–.01	1.50
Transportation	.1	2.9	2.8	.21	.15	.72	1.82
Communications	–.3	4.2	4.5	1.13	.68	.28	2.14
Utilities	–.5	.4	1.0	.45	.68	.14	.14
Trade	.7	3.1	2.4	.51	.49	.76	.91
Finance, insurance, and real estate	–.4	4.1	4.5	.39	.84	.73	2.32
Services	–.2	4.3	4.5	.30	.29	1.97	1.86

mean they appear to be pulling down aggregate MFP. MFP is designed to measure the effects of factors such as technology, efficiency, and returns to scale. For a growing industry, MFP is unlikely to decline over long time periods. Furthermore, we know that real output measurement is problematic in these sectors. These negative Domar contributions, therefore, may be symptomatic of measurement problems.

As noted in our earlier work, the Domar framework allocates some aggregate productivity growth to industries that sell some of their output to other industries. Except for sales of capital goods, these "intermediate" sales do not enter "final demand" in the National Income and Product Accounts, and are not counted in aggregate output. For that reason, any error in measuring the real output trends associated with these sales would not affect business sector productivity. Such an error would, however, lead to the wrong story on the industry allocation of productivity growth. Table 7 reports on "what if" simulations designed to isolate the effects of negative (and presumably incorrect) output trends on the aggregate productivity trends. The simulations, similar to those in our earlier work, estimate what would happen if we adjusted industry output trends enough to raise the MFP of all industries with negative measured MFP trends to zero (top panel) or to 1 percent (bottom panel).

We focus on the third column of the top panel of table 7, which shows the effects on raising negative "BEA output based" MFP trends to zero. The total effect is 0.34 on the trend for 1977–97. In our earlier work, the effect had been 0.44 on the trend for 1977–92. Furthermore, the same four industries contribute to the problem. Raising construction MFP to zero (by adjusting its output) would now increase the aggregate MFP trend by 0.12. This is followed by insurance (0.08), health services (0.05), and banking (0.03). Negative MFP in auto repair also "contributes" .03.

A little discussion of banking is in order.[12] In our earlier work, we highlighted banking, which then had an MFP trend of –2.3 percent per year. At the time, the BEA banking output trends were measured, mainly, by using employment trends. This implied there was no change in labor productivity. In the 1999 National Income and Product Accounts revisions, BEA adopted the BLS banking output measures, which are based on counts of transactions. It now looks as if this change raised banking MFP almost enough to eliminate the negative MFP trend.[13] Banks have been investing heavily in capital, and the new output trends come much closer to accounting for the quality adjusted input growth. Still, the relative output and input trends give no indication of MFP *gains*.

High tech equipment

In these new data, two unexpected results emerge: first, persistent and significant negative MFP trends in construction, insurance, health, and, to a lesser extent, banking; and second, lower MFP trends in services and communications than those apparent in the old data. These trends were surprising, because for this research, we have included data through the prosperous mid-1990s.

Earlier this year, Steve Oliner and Dan Sichel point out that high tech capital affects aggregate labor productivity growth twice: *first, when the capital is made and again, when it is used.*[14] As Solow showed in 1957, wherever capital input is ***used***, it can contribute to labor productivity. As Domar showed in 1961, the industries where capital goods are ***made*** can experience productivity improvements and can contrib-

Table 6. Estimates of private business sector multifactor productivity and estimates of its attributions to industries, selected periods

SIC code	Estimated industry point contributions to private sector trends	Main source of output estimates:			
		Bureau of Labor Statistics			Bureau of Economic Analysis
		1947–63	1963–77	1977–97	1977–97
1, 2	Farms	0.3	0.1	0.1	0.1
10–14	Mining	.1	–.1	–.1	–.1
13	Oil and gas extraction	–	–.1	–.1	–.1
15–17	Construction	.2	–.2	–.1	–.1
20–39	Manufacturing	.7	.6	.6	.6
24, 25, 32–39	Durable manufacturing	.3	.4	.5	.5
20–23, 26–31	Nondurable manufacturing	.5	.2	.1	.1
40–47	Transportation	.1	.1	0	.1
48	Communications	.1	.1	0	0
49	Electric, gas, and sanitary services	.1	.1	0	0
50–59	Trade	.6	.7	.2	.3
50, 51	Wholesale trade	–	.3	.2	.2
52–59	Retail trade	–	.4	0	.2
60–67	Finance, insurance, and real estate	.1	.1	0	–.1
60, 61, 67	Credit agencies, holding companies	–	0	0	0
63	Insurance carriers	–	0	–.1	0
65–66	Real estate	–	.1	0	0
7–9, 70–89	Services	.1	–.1	–.1	–.2
73, 76	Business and professional services	–	0	–.1	–.1
80	Health services	–	–.1	0	0
81, 89	Legal and other professional services	–	0	.1	.0
	Total contributions: Private business trend derived by "Domar" aggregation	2.4	1.4	.7	.7
	Private business sector MFP trend estimates (compound annual rates of change):	**1948–63**	**1963–77**	**1977–97**	...
	Published BLS estimates	2.2	1.8	.6	...

Note: Industries and sectors with absolute contributions rounding to less than 0.1 in each time period have been omitted from table 6.

ute to aggregate productivity growth. We have estimates of each of these effects for high tech capital. In May 2001, BLS reported that increased "capital intensity" associated with the ***use*** of information processing equipment and software inputs accounted for 0.9 percent of the 2.6 percent labor productivity trend in private business during 1995–99. For this article, a new table shows the "Domar contributions" of two-digit manufacturing industries to the private business MFP trends.[15] (See table 8.) The striking result in table 8 is that SICs 35 and 36, where semiconductors and computers are ***made***, account for about half of the 1.3 percent per year MFP trend for the entire private business sector during 1995–99 (and nearly three-fourths of the 2.5 percent trend of manufacturing MFP during the same period). Together, both high tech effects— manufacture and use—account for 1.6 percent per year of the 2.6 percent labor productivity trend during 1995–99.[16] In other words, high tech capital appears to be the dominant explanation for productivity growth in the late 1990s.

These findings rest on estimated trends for high tech inputs and outputs that incorporate adjustments to account for changes in their quality.[17] Many of the high tech input and output growth rates are well up in the double-digit percentage range. These extraordinary trends, in turn, rest on the use of quality adjusted price indexes in deflation. These indicate that prices for high tech goods of constant quality have fallen very rapidly. These price trend estimates have withstood much scrutiny, but we must emphasize their importance for our conclusions. While it is likely that real output trends have been underestimated in many or all of the service sector industries

Table 7. Effects on aggregate MFP trends from adjusting output trends for those industries that exhibit negative MFP growth and also adjusting input trends for industries buying the outputs of the industries with negative MFP, 1977–97

SIC code	Industry adjusted and the total effects of the adjustment:	Bureau of Labor Statistics output-based:		Bureau of Economic Analysis output-based:	
		Private business multifactor productivity	Manufacturing multifactor productivity	Private business multifactor productivity	Manufacturing multifactor productivity
	Adjustments sufficient to produce zero industry MFP growth				
	Total effects:	0.30	–0.14	**0.34**	–0.11
13	Oil and gas extraction	–.02	–.07	**–.01**	–.05
15–17	Construction	.08	0	**.12**	0
41	Local and interurban passenger transit	0	0	**.01**	0
42	Trucking and warehousing	.01	–.01	**0**	0
48	Communications	.01	0	**0**	0
49	Electric, gas, sanitary services	.03	–.02	**.01**	–.01
60, 61, 67	Credit agencies, and so forth	0	0	**.03**	0
63	Insurance carriers	.09	–.01	**.08**	0
70	Hotels and other lodging	.02	–.01	**.01**	0
73, 76	Business services	.01	–.03	**.01**	–.03
75	Auto repair, and so forth	.01	0	**.03**	–.01
80	Health services	.05	0	**.05**	0
	Adjustments sufficient to produce 1 percent industry MFP growth				
	Total effects:	.68	–.27	.72	–.23
13	Oil and gas extraction	–.03	–.10	–.02	–.09
15–17	Construction	.21	0	.24	0
41	Local passenger transit	.01	0	.01	0
42	Trucking and warehousing	.02	–.03	0	0
48	Communications	.04	0	0	0
49	Electric, gas, sanitary services	.07	–.04	.06	–.03
60, 61, 67	Credit agencies, and so forth	0	0	.07	–.01
63	Insurance carriers	.14	–.01	.13	–.01
70	Hotels and other lodging	.02	–.01	.02	0
73, 76	Business services	.02	–.06	.02	–.06
75	Auto repair, and so forth	.04	–.01	.06	–.01
80	Health services	.12	0	.12	0

Table 8. Contributions of manufacturing industries to private business multifactor productivity

SIC code	Industry	1949–73	1973–79	1979–90	1990–95	1995–99
20	Food	0.09	0.01	0.03	0.05	−0.02
21	Tobacco	0	−.01	−.03	.02	−.05
22	Textiles	.06	.06	.03	.02	.02
23	Apparel	.02	.04	.01	.01	.02
26	Paper	.03	−.03	0	0	.03
27	Printing	.01	−.02	−.03	−.04	−.02
28	Chemicals	.11	−.13	.04	−.01	.04
29	Petroleum	.03	−.03	−.01	.01	.02
30	Rubber	.02	−.04	.03	.03	.03
31	Leather	0	0	0	0	0
24	Lumber	.03	.01	.04	−.02	−.01
25	Furniture	.01	0	.01	.01	.01
32	Stone, clay and glass	.02	−.03	.02	.01	.01
33	Primary metals	.02	−.11	.01	.02	.04
34	Fabricated metals	.02	−.05	.02	.03	0
35	Industrial and commercial machinery	.04	.01	.20	.16	.35
36	Electrical machinery	.08	.05	.13	.23	.34
37	Transportation equipment	.12	−.05	.01	.03	.09
38	Instruments	.03	.03	.04	0	.02
39	Miscellaneous manufacturing	.02	−.01	.01	0	.01
...	Total manufacturing contribution	.77	−.32	.57	.55	.93
...	Private business sector multifactor productivity	2.10	.60	.50	.60	1.30

with negative MFP trends, it is also possible that the growth trends for high tech inputs have been overestimated. While either source of bias would tend to push service industry MFP trends down, the two would have opposite effects on the aggregate MFP trend. Underestimating service sector output trends would bias the aggregate productivity trend downward. Overestimating high tech input and output trends would bias the aggregate productivity trend upward.

With the results of this article, we can neither prove that service output growth rates are too low, nor determine that high tech input and output growth rates are too high. We can, however, express a concern that the "measurement playing field" may not be level. We have very intricate means of making quality adjustments to high tech goods, but we have few means to make quality adjustments to service outputs.

Summary and conclusions

In our earlier work, the bottom line rested on aggregate productivity trends that were probably downward biased. In light of the new evidence presented here, reaching a firm conclusion about aggregate bias may be more difficult. Recent aggregate productivity trends are higher now than they were when we published the earlier analysis. This is due to improvements made by BEA to the National Income and Product Accounts (affecting the aggregate productivity trends prior to 1995), and also to a significant speedup in productivity growth since 1995.

In spite of the measurement improvements, it is clear that the problem of "difficult to measure" service outputs has yet to be resolved. In the tables, most of the MFP anomalies noted in the earlier work remain, and several new ones have appeared. There are conceptual barriers to measuring the outputs of some service industries. Present methods probably still fail to capture many important quality improvements occurring in these industries. If, however, the growth in high tech capital quality is somewhat overstated, it would serve to confuse efforts to sort out where the productivity improvements really are and to assess the direction of any overall bias in the measured productivity growth rate.

Because many of the results in the "industry exercise" may reflect measurement problems, our ability to fully understand the sources of productivity change may be hampered. A need continues to exist for further scrutiny of the procedures for measuring price, output, and quality trends in ever-changing industries in both the service and technology sectors. □

Notes

[1] This earlier article is available at **http://stats.bls.gov/opub/mlr/1999/02/art4full.pdf**.

[2] Solow, Robert M., "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics,* (1957) Vol. 39, No. 3, pp. 312-20.

[3] Evsey D. Domar, "On the Measurement of Technological Change," *Economic Journal,* December 1961, pp. 709–29.

[4] In an unpublished paper supplementing the earlier article, we described an "ideal" set of data and also a model that could use these data to calculate industry and aggregate productivity in a consistent manner. Ideally we would have (a) an annual set of nominal input-output tables defined consistently over time, (b) a complete set of price indexes for each product, and (c) complete data on real capital and labor inputs used by each industry. All of this would be consistent with published aggregate data on output and inputs. Of course, the available data fall short of this ideal. Construction of this data-set would be expensive, because it would involve reconciling considerable amounts of conflicting information and estimating much incomplete information. In the economic censuses, in Bureau of Economic Analysis input-output and National Income and Product Accounts work and in Bureau of Labor Statistics multifactor productivity (MFP) work, however, much of what would be needed to construct this ideal data-set is already effectively estimated. To get the results in the *Monthly Labor Review* article and the new results here, we have made assumptions and adjustments to reconcile various data with the framework we have in mind. By using many shortcuts, we have attempted to infer what MFP trends might emerge if the ideal data-set were really constructed.

The unpublished paper also spelled out the rationale for the model used in terms of production functions. We had this model and these "ideal" data in mind in formulating the industry exercise. It is important to be able to relate real economic growth measurement procedures to formal production theory. It is not the case that describing the link to theory forces a lot of assumptions onto the data. To the contrary, we are assuming much in any event, and careful links to theory help us understand what it is we are assuming, and by doing so, to guide the way to less rigid assumptions.

[5] On a quinquennial basis, we estimate a full set of inputs and outputs in both nominal and real terms. These are based in part on input-output tables and on industry gross output and output price series that the authors obtained from the BLS Office of Employment Projections (OEP). The OEP starts with Bureau of Economic Analysis benchmark input-output tables and makes adjustments for "time series consistency." At this point, the most recent benchmark table available is for 1992. The tables in the current paper reflect new OEP work that, in turn, reflects the 1999 comprehensive revisions to Bureau of Economic Analysis National Income and Product Accounts.

[6] This involves substituting the Bureau of Economic Analysis output trends for BLS output trends and using the input-output data to adjust the input trends estimates for compatibility with the Bureau of Economic Analysis output levels. Bureau of Economic Analysis-based trends are based on adjustments to BLS trends, and we never develop a full set of inputs and outputs consistent with Bureau of Economic Analysis-output based MFP trends.

[7] For those unfamiliar with the *Monthly Labor Review* article, we will note the major data sources used to estimate these MFP trends in table 4. These are the 1977 and 1992 input-output tables from the Bureau of Economic Analysis, adjustments to these tables for consistent definitions made by the BLS Office of Employment Projections (OEP), an estimate of the 1997 table made by the OEP and the authors using data from the 1997 Economic Censuses; Bureau of Economic Analysis data on nominal and real gross output associated with their gross product originating measures; and data on capital and labor from the data-set supporting the published BLS MFP measures for the private business sector.

[8] Gordon, Robert J., "Does the New Economy Measure Up to the Great Inventions of the Past?" *Journal of Economic Perspectives* 14 (2000): pp. 49–74.

[9] To simplify processing, the "point contributions" of specific input categories to "input growth" were computed by multiplying each category's input quantity trend, for 1977–97, by the arithmetic mean of its cost shares in 1977 and 1997. Since the aggregate input growth trends are built up by chaining quinquennial trends, the sum of point contributions sometimes differs from the input growth rate by several tenths of a percent.

[10] The ratio is the nominal value of the industry's sectoral output divided by the nominal value of private business gross product originating. The contribution of industries to aggregate productivity growth by Domar's method is independent of the form of the MFP measures used for each. Industry measures can be alternatively based on gross output, "sectoral output," or a net value-added output and, as long as the nominal values used for weights and the inputs and outputs underlying the MFP measure are defined consistently, industrial contributions are unaffected. The term "sectoral output" is attributable to Frank Gollop. It expresses Domar's preferred concept of an industry's output: it includes all sales to final demand plus all sales to other industries, but deducts from that the value of intermediate inputs purchased from within the industry in question. Note that the scope of the measure depends on the degree of aggregation: as we examine progressively more aggregate industrial sectors, successively more intermediate inputs are excluded. As we noted in our *Monthly Labor Review* article, the sum of these ratios is more than one because the industries sell intermediate products to one another. The intuition as to why the weights would add up to more than one can be illustrated by the following example. If the productivity of steel makers improved by 1 percent, and the productivity of automakers improved by 1 percent, then the productivity with which the economy created cars would have increased by more than 1 percent.

[11] When contributions are added up (with more precision than shown), these new calculations approximately replicate the published MFP trends for the private business sector (compared in two lines near the bottom of the table). For 1977–97 the new detailed contributions are consistent with an aggregate MFP trend of 0.7.

[12] Note that the category we refer to as "banks" includes private, for-profit financial institutions within SICs 60, 61, and 67. Among the more important types of institutions in these industries are commercial banks, savings and loans, credit agencies, bank holding companies, certain trusts, and royalty administrators. Commercial banks accounted for about 57 percent of the employment in this category in 1995.

[13] In table 4, the trend is –1.6 percent per year from 1977–97. We also calculated the trend for 1987–97 and this was –0.8 percent per year.

[14] Oliner, Stephen D. and Daniel E. Sichel , "The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?" *Journal of Economic Perspectives,* Fall 2000, pp. 3–22.

[15] These results are based on MFP trends that BLS publishes, and so they are not subject to quite so many qualifications as the nonmanufacturing estimates.

[16] Oliner and Sichel found similarly large effects from both the making and the use of high tech items.

[17] Both of Oliner and Sichel's effects are directly dependent on the measured growth rate of high tech quality change.

Consumer inflation lower in 2001: energy and apparel prices declined

The largest annual decrease in gasoline prices since 1986 occurred in 2001; apparel prices declined for the fourth consecutive year, while food inflation remained the same

Todd Wilson

The Consumer Price Index for All Urban Consumers (CPI-U) for All Items for the U.S. city average increased 1.6 percent in 2001, down from a 3.4-percent rise during the prior year.[1] The 2001 deceleration in this index mainly reflects lower prices for energy (household fuels and motor fuel), apparel, and various commodities excluding food. Within the energy component, which represents almost 8 percent of the CPI-U, double-digit decreases in prices were recorded for gasoline, fuel oil, and natural gas. Apparel prices declined for the fourth consecutive year, and at an increasing rate. The declines were widespread among the major clothing categories, including those for men's and boys', women's and girls', and footwear.

Higher prices for many types of services, such as owners' equivalent rent, rent of primary residence, and medical care services were partially offset by lower prices for many types of commodities such as gasoline, apparel, and durables, including furniture and bedding and computers. Commodities are generally subject to greater global competition than services, and generally increase in price less than services. Actually, in 2001, the commodities index decreased for the first time since 1986 by 1.4 percent, following a 2.7-percent increase in 2000.

The CPI-U excluding food and energy prices (often called the core CPI-U) increased 2.7 percent, after rising 2.6 percent in 2000.[2] Durables prices declined 1.3 percent in 2001, following no change in 2000. Nondurables prices decreased 1.4 percent, after increasing 3.6 percent during 2000. Prices for services rose 3.7 percent last year, following an increase of 3.9 percent during the earlier year. (See table 1.)

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Other price measures

The Producer Price Index (PPI) for finished goods declined 1.8 percent in 2001. Excluding food and energy, the PPI for finished goods rose just 0.7 percent, while the PPI for intermediate materials decreased 1.6 percent. The PPI for crude nonfood materials less energy decreased 9.9 percent. Raw cotton prices decreased 46.7 percent. Wastepaper prices decreased 28.9 percent. Iron and steel scrap prices declined 8.5 percent.

Excluding petroleum, import prices for commodities decreased 4.4 percent in 2001, after increasing 1.3 percent in 2000, as measured by the Import Price Index. (The PPI does not reflect changes in import prices.) Decreasing or slightly rising import prices in recent years have damped input costs for many businesses in this country. Furthermore, very low import inflation has inhibited price increases by domestic firms facing import competition.

Energy and food prices

Energy. Energy prices decreased 13.0 percent in 2001, after increasing 14.2 percent during the prior year. Last year, gasoline prices decreased 24.9 percent—the largest annual decrease since 1986. Household fuel oil prices declined 26.7 percent and

natural gas prices decreased 15.1 percent. Interestingly, the CPI would have increased approximately one percentage point more, had gasoline and natural gas prices been unchanged.

During 1999 and 2000, crude oil prices moved sharply higher. By September 2000, following the reduced oil production of the world's leading oil producers, world crude oil prices reached $31 per barrel, the highest level since the Persian Gulf War period. By May 2001, the average price per gallon of gasoline (all types) had climbed to a record $1.81. Soaring prices for oil and its products (including gasoline and fuel oil) encouraged increased global production of oil and its products. As world petroleum and its products' supplies rose in 2001, prices for these items decreased.

A decrease in demand for crude oil also played a major role in declining energy prices in 2001. Across the world, anemic economic growth resulted in sluggish aggregate demand and therefore in lower demand for crude oil. Unusually warm winter weather in the United States weakened demand for fuel oil.[3] Furthermore, following the September 11 terrorist attacks, a sharp drop in jet fuel demand resulted in a slight rise in gasoline production.[4] On a seasonally adjusted basis, the gasoline all types index decreased 24.3 percent during the fourth quarter of last year. By December 2001, the average price per gallon of gasoline all types had fallen to $1.20.

Higher levels of new natural gas supplies, and lower demand for them, have led to decreasing prices for residential natural gas. Soaring natural gas prices in 2000 created incentives for increased gas exploration and production, resulting in higher-than-expected levels of gas injections into underground storage. The high natural gas prices in 2000 also led to conservation and fuel switching, for example from natural gas to electricity. Additionally, relatively mild winter and summer weather and sluggish economic growth reduced demand for natural gas.[5] In contrast to the other energy series, electricity prices rose 6.1 percent last year.

Food. Food inflation remained unchanged in 2001—2.8 percent. Slightly lower inflation for grocery store food, 2.6 per-

Table 1. Annual percent change in the Consumer Price Index for All Urban Consumers (CPI-U), selected expenditure categories, 1992–2001

Expenditure category	Dec. 2000 relative importance	Percent change for 12 months ended December—									
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All Items	100.000	2.9	2.7	2.7	2.5	3.3	1.7	1.6	2.7	3.4	1.6
Food	15.217	1.5	2.9	2.9	2.1	4.3	1.5	2.3	1.9	2.8	2.8
Energy	7.681	2.0	–1.4	2.2	–1.3	8.6	–3.4	–8.8	13.4	14.2	–13.0
All items less food and energy	77.102	3.3	3.2	2.6	3.0	2.6	2.2	2.4	1.9	2.6	2.7
Commodities less food and energy	22.768	2.5	1.6	1.4	1.7	1.1	.4	1.3	.2	.6	–.3
All items less energy	92.319	3.0	3.1	2.6	2.9	2.9	2.1	2.4	2.0	2.6	2.8
Commodities	41.828	2.0	1.5	2.3	1.4	3.2	.2	.4	2.7	2.7	–1.4
Durables	10.573	2.5	2.7	2.9	1.7	.7	–1.5	–.5	–1.2	.0	–1.3
Furniture and bedding	1.064	4.5	3.6	1.6	4.2	1.0	–.7	1.4	–1.3	.4	–3.1
Televisions	.157	–1.2	–1.7	–1.4	–4.0	–5.3	–4.3	–4.8	–7.3	–10.7	–10.8
New vehicles	4.677	2.3	3.3	3.3	1.9	1.8	–.9	.0	–.3	.0	–.1
Personal computers and peripheral equipment	.079	–	–	–	–	–	–	–35.8	–26.5	–22.7	–30.7
Nondurables	31.255	1.9	1.1	2.0	1.4	4.0	.8	.7	4.1	3.6	–1.4
Energy commodities	3.843	1.2	–5.1	5.2	–3.3	13.8	–6.9	–15.1	29.5	15.7	–24.5
Gasoline	3.458	2.0	–5.9	6.4	–4.2	12.4	–6.1	–15.4	30.1	13.9	–24.9
Fuel oil	.268	–3.4	–4.6	.0	1.5	23.3	–11.7	–15.2	30.9	40.5	–26.7
Apparel	4.453	1.4	.9	–1.6	.1	–.2	1.0	–.7	–.5	–1.8	–3.2
Medical care commodities	1.261	5.2	3.1	3.0	1.8	2.6	2.3	4.1	4.0	2.8	4.4
Services	58.172	3.6	3.8	2.9	3.5	3.3	2.8	2.6	2.6	3.9	3.7
Shelter	30.251	2.9	3.0	3.0	3.5	2.9	3.4	3.3	2.5	3.4	4.2
Rent of primary residence	7.079	2.3	2.2	2.5	2.5	2.8	3.1	3.4	3.1	4.0	4.7
Owners' equivalent rent of primary residence	20.460	3.0	3.2	3.3	3.7	2.8	3.1	3.2	2.4	3.4	4.5
Utility natural gas service	1.385	5.1	5.8	–3.2	–3.6	11.0	3.3	–3.5	2.1	36.7	–15.1
Medical care services	4.552	7.0	5.9	5.4	4.4	3.2	2.9	3.2	3.6	4.6	4.8
Airline fares	.923	6.6	17.0	–9.5	1.8	14.7	–4.8	4.1	10.9	5.9	–3.9
Telephone services	2.150	–	–	–	–	–	–	.3	.4	–2.3	1.3
Medical care	5.813	6.6	5.4	4.9	3.9	3.0	2.8	3.4	3.7	4.2	4.7

NOTE: Data are not seasonally adjusted. Dashes indicate data are not available.

cent, was offset by slightly higher inflation for restaurant food, 3.0 percent. Price decreases were recorded for fruits and vegetables, and fish and seafood. Pork, cereals and bakery products, and nonalcoholic beverages showed lower price increases than those during 2000, while larger price increases were recorded for beef and veal, dairy products, poultry, and other food at home.

The fresh fruits index increased just 0.6 percent in 2001, after increasing 0.8 percent during the prior year. Higher prices for bananas, apples, and oranges were partially offset by a 5.8-percent decrease in other fresh fruit prices. In 2001, there were increased supplies of grapes, strawberries, melons, and pears. Orange prices rose 12.8 percent, accompanied by a reduction in California orange trees and poor Florida weather.

Fresh vegetable prices decreased 4.1 percent in 2001, after rising 12.2 percent during the prior year. Prices decreased 17.8 percent for lettuce and 7.6 percent for tomatoes. For these two items, acreages increased and supplies were plentiful.

Fish and seafood prices declined 0.1 percent last year, following a 1.4-percent increase in 2000. Tuna imports from Bolivia, Ecuador, Columbia, and Peru increased throughout 2001. In September and October, Alaska experienced a tuna glut. Production was better than normal for shrimp, salmon, and catfish.

Pork inflation decelerated in 2001; after rising 5.8 percent in 2000, pork prices increased 3.7 percent last year. Hog slaughters in 2001 were practically unchanged from the previous year, with an average 2-pound gain in dressed weights, increasing pork production by 1 percent last year.[6]

Cereal and bakery product prices rose 2.4 percent in 2001, compared with 2.6 percent in 2000. The rice index decreased 1.0 percent. Rice supplies increased last year to near-record levels.

The index for nonalcoholic beverages increased just 1.3 percent last year, following a 1.5-percent rise in 2000. Coffee prices declined 3.5 percent, accompanying a worldwide coffee glut.

Beef and veal prices rose 6.2 percent in 2001, following a 5.5-percent rise during the previous year. Cattle herd reductions limited the supply of high quality beef, and contributed to acceleration in beef inflation last year. These herd liquidations continued for the fifth year last year, following a peak in the herd size in January 1996. Severe winter weather and droughts in 2001 led to another year of herd reductions. Beef cow slaughter increased sharply. Many heifers were placed into feedlots in preparation for slaughter, instead of being retained for herd expansion. Herd reductions often increase supplies of meat in the short run. The herds have apparently been reduced so much over the last few years that last year's herd reductions and slaughter of heifers still resulted in overall lower supplies than those during the prior year. Beef prices rose sharply during the first half of 2001, in part because of increased demand from the hotel-restaurant and export markets for high quality beef.[7]

Prices for dairy products increased 5.8 percent, after decreasing 0.4 percent in 2000. Average milk output per cow was lowered by the stress of winter weather and by low supplies of good forage.[8]

Poultry prices rose 4.4 percent last year, after increasing 2.0 percent in 2000. Broiler production was up 2.0 percent last year after having been up 2.5 percent in 2000,[9] yet broiler cold storage stocks at the end of October had declined 16 percent from the prior year. Broiler exports increased sharply. For the first 10 months of 2001, broiler exports to Russia rose 72 percent, versus the same period in 2000. Russia purchased more than one-third of U.S. broiler exports—more than any other country. For the first 10 months of 2001, turkey exports rose 12.5 percent, versus the same period in 2000, reflecting increased sales to Russia and Poland.[10]

The other food at home index increased 2.9 percent in 2001, following a 2.0-percent rise during the prior year. Butter prices contributed significantly to the increase, with an 18.8-percent rise in 2001.

Items other than food and energy

Apparel. The apparel index fell 3.2 percent in 2001, after decreasing 1.8 percent in 2000. Each of these annual declines was the largest since 1952. Both apparel sales volumes and consumer confidence declined in 2000 and 2001. Demand for apparel was down during this period, especially at department stores and specialty clothing stores. Last year, even discount clothiers sold fewer clothes than normal. The recession and bearish stock market led many consumers to put off discretionary purchases such as those for clothing. Consequently, retailers were forced to offer more sales prices than usual. Additionally, the warm weather this past fall discouraged many consumers from purchasing cool-weather clothing.

Moreover, for the past decade, an oversupply of clothiers and apparel merchandise has existed in this country. With many stores offering identical clothing, apparel prices have actually declined over the past 11 years. Between December 1990 and December 2001, the apparel index decreased 1.3 percent.

In 2001, the indexes for both women's and girls' apparel and men's and boys' apparel each decreased 4.1 percent. The index for infants' and toddlers' apparel increased 0.2 percent. Footwear prices decreased 2.6 percent. Prices for jewelry and watches were down 0.1 percent.

Shelter. Shelter costs rose 4.2 percent last year, after increasing 3.4 percent in 2000. Higher increases were calculated for rent of primary residence, owners' equivalent rent of primary

residence, and housing at school. The rent of primary residence index showed the largest increase in 15 years—4.7 percent, compared with 4.0 percent in 2000. The owners' equivalent rent index rose 4.5 percent last year, following a 3.4-percent increase during 2000, a reflection of the boom in rent.

Hotel and motel charges decreased 0.8 percent, after rising 2.7 percent during the prior year. Before September 11, demand for hotels and motels was already weak. For the 12-month period ending August 2001, this index rose 1.5 percent, versus 5.1 percent during the prior year. Following September 11, demand further decreased for hotels and motels, especially in New York, Las Vegas, and Orlando. (Demand declined for other travel related services as well, such as airline tickets.) From August to December, hotel and motel charges decreased 2.4 percent, seasonally adjusted, versus a 0.4-percent decline during the same period in 2000.

Airline fares. The airline fares index decreased 3.9 percent in 2001, after rising 5.9 percent in the previous year. Following September 11, demand for flights decreased sharply. From August to December, airline fares decreased 6.3 percent, not seasonally adjusted (no seasonally adjusted data are available), versus a 4.9-percent decline during the same period in 2000. A 44.2- percent decline in jet fuel prices, as measured by the Producer Price Index, contributed to the drop in airline fares.

Vehicles. New vehicle prices decreased 0.1 percent in 2001, following no change in 2000. New car prices remained unchanged. New truck prices declined 0.1 percent. Prior to September 11, demand for new vehicles was already down from 2000. For the first 8 months of 2001, light truck sales decreased 3.9 percent, compared with the same period in 2000. New car sales decreased 5.8 percent. In an effort to encourage buying, manufacturers offered generous rebates and dealerships offered generous discounting. Strong competition among vehiclemakers, an economy in recession, and a bearish stock market all served to weaken new car and truck sales, holding these prices flat.

During the week of and the week after the terrorist attacks, new vehicle sales plummeted. During the final week of September, these sales bounced back, thanks to zero-percent and low annual percentage rate (APR) financing offered by manufacturers.[11] For the first 9 months of 2001, new vehicle sales decreased 5.8 percent, compared with the same period in 2000. The zero-percent financing offers were extremely popular among vehicle buyers, especially in October. From September to October, sales of new vehicles rose 33.6 percent. The largest vehicle manufacturers continued offering such financing terms through December. Consequently, in 2001, new vehicle sales decreased by just 1.3 percent.[12]

In addition to fierce competition among vehiclemakers, the recession, and the faltering stock market, the Internet has also served to hold new car and truck prices flat. In recent years, consumers have become increasingly informed and price savvy, using the Internet to compare styles, equipment options, and prices of vehicles conveniently from their homes.

Used car and truck prices declined 1.9 percent in 2001, after increasing 3.4 percent during the prior year.

Medical care. The medical care index increased 4.7 percent in 2001, the highest calendar-year increase since 1994, following a 4.2-percent advance in 2000. Higher price increases for inpatient hospital services and for prescription drugs offset lower price increases for services by physicians, dentists, outpatient hospitals, and nursing homes.

The index for prescription drugs and medical supplies increased 6.0 percent in 2001, compared with 3.6 percent in 2000. In recent years, there has been a large increase in demand for prescription drugs, in part due to increased advertising aimed directly to consumers by pharmaceutical companies. The drug categories which showed the strongest price gains last year include anti-infectives, antihistamines, gastrointestinals, cardiovasculars, estrogens/progestins and psychotherapeutics. Large increases in spending on prescription drugs by managed care plans in recent years have resulted in sharply increasing premiums for health insurance plans during this period.

Medical care services fees rose 4.8 percent, compared with 4.6 percent in 2000. Physicians' service charges rose 3.5 percent in 2001, compared with 3.9 percent in 2000. Physicians' costs have escalated in part due to the cost of acquiring additional training needed to perform new procedures and to operate new equipment. Fees for dental services increased 3.9 percent last year, following a 4.3-percent rise in 2000.

Hospital services charges increased 7.2 percent, following a 6.3-percent rise during the prior year. A main factor behind last year's high increase in hospital services charges is higher labor costs for nurses. Increases in nursing charges have accelerated in recent years due to a growing shortage of nurses. Additionally, restrictions of allowable charges and reductions in some Medicare and Medicaid reimbursements have led many hospitals to attempt to compensate by increasing fees to private-pay patients. For a number of years, investments in improved information technology have enabled hospitals to monitor, more completely and more frequently, increases in charges by competing hospitals. As a result, many hospitals have routinely raised charges throughout the year, and in 2001, by a higher percentage than that during 2000.

Costs to hospitals for providing medical care services increased, in part, due to both higher demand and higher resource utilization. Demand and utilization rose following the expanded availability of new high-tech equipment used both

for diagnostics and to perform less invasive surgical procedures such as laparoscopy. The increased demand was made possible in part by the exercise of fewer restrictions by managed care organizations over allowable medical procedures during the past 2 years. Another factor leading to higher medical provider and medical insurance costs was the installation and upkeep, by hospitals, of new information technology that has has raised productivity related to billing, claims payment, internal analysis of charges, and the scheduling of appointments and procedures.

Miscellaneous personal services. This index was among those that accelerated in 2001, up 5.0 percent, compared with a 3.7-percent increase during each of the prior 2 years. Legal service fees rose 6.5 last year. Increases in legal fees resulted in part from higher labor costs and overhead expenses associated with providing the following services: attending depositions; preparing briefs; handling no fault or uncontested divorces, wills and trusts, and driving under the influence.

Prices for financial services increased 4.5 percent, compared with a 3.7-percent rise in 2000. The increase was largely associated with higher fees for making numerous seasonal changes for tax return preparation, in addition to higher fees for electronic tax filing. Banking service fees also rose due to increases in fees for checks, overdraft charges and safe deposit box rental fees.

The funeral expenses index increased 4.5 percent in 2001, following a 2.5-percent rise during 2000. Higher salaries were paid to funeral directors and staff, and prices were increased for caskets, cremation services, memorials, cemetery lots, crypts, grave liners, and automobile related services. Reasons given for the increases include higher costs of commodities and labor used to provide the services. □

Notes

[1] Annual percent changes are calculated from December to December, unless otherwise stated.

[2] Economists often exclude food and energy price movements when evaluating the underlying or "core" level of inflation. Food and energy price movements tend to be relatively volatile in the short-to-intermediate terms, making only transitory impacts on the All Items CPI. Large rises in these prices are often followed by large decreases, and vice versa. Volatility in food and energy price movements, such as that caused by unusual weather conditions, is generally self-correcting. Inclement weather often leads to temporary food shortages and temporarily increased demand for household fuels. Sustained shifts in food and energy prices, of course, will affect overall inflation.

[3] *Petroleum Marketing Monthly* (Energy Information Administration, U.S. Department of Energy, *February 2002*), p. viii.

[4] *Why Are Gasoline Prices Falling So Rapidly?* (Energy Information Administration, U.S. Department of Energy, November 2001).

[5] *Short-Term Energy Outlook* (Energy Information Administration, U.S. Department of Energy, December 2001), pp. 6 and 7.

[6] *Livestock, Dairy and Poultry Situation and Outlook* (U.S. Department of Agriculture, Jan. 16, 2002).

[7] *Livestock, Dairy and Poultry*, Department of Agriculture, January 2002.

[8] *Livestock, Dairy and Poultry Situation and Outlook*, (U.S. Department of Agriculture, Dec. 27, 2001).

[9] Livestock, Dairy and Poultry Situation and Outlook (U.S. Department of Agriculture, Jan. 16, 2002).

[10] *Livestock, Dairy and Poultry*, Department of Agriculture, December 2001.

[11] The CPI measures a new vehicle's cash price, reflecting any dealership markups, or manufacturer rebates or concessions, or both. The CPI does not, however, reflect any special finance offers, such as zero-percent financing. In most cases, when zero-percent financing was offered, it was offered along with a smaller rebate than would have been offered in the absence of such financing.

[12] New vehicle sales figures are from *Automotive News*, Crain Communications Inc., September 2001 to January 2002.

Rankings of full-time occupations, by earnings, 2000

John E. Buckley

In 2000, pay averaged $16.66 an hour for full-time workers in private industry and State and local governments, according to data from the Bureau of Labor Statistics National Compensation Survey. Airplane pilots and navigators averaged $95.80; physicians averaged $61.19. These two salaried occupations topped the list of 427 occupations arrayed by earnings. The average number of annual hours worked by physicians (2,175) far surpassed those of airplane pilots and navigators (1,197). As a result, the average annual salary estimate for physicians was $133,088, compared with $114,673 for airplane pilots and navigators. Because the standard error is high for each of these occupations (especially for physicians), caution must be exercised in making direct salary comparisons.

These results of the 2000 National Compensation Survey are the fourth annual findings of establishment-based surveys in a sample of 154 metropolitan and nonmetropolitan areas. The sample represents the Nation's 326 metropolitan statistical areas (as defined by the Office of Management and Budget in 1994) and the remaining portions of the 50 States. Agricultural, private household, and Federal Government workers are not included in the National Compensation Survey. [1]

High- and low-paying occupations

Top 10 percent. Of the 43 occupations with hourly earnings in the top 10 percent , 38 were in the professional major occupational group; 4 were in the executive group, and 1 was in sales (sales engineers). Of the 38 professional occupations, 22 were teaching positions, paying average hourly earnings ranging from $54.47 for economics teachers to $35.19 for psychology teachers. Workers in 11 of these 22 teaching positions averaged $39.07 or more an hour.

Top 20 percent. The 86 occupations in the top 20 percent of the earnings array were dominated by positions in the professional and executive major occupational groups. (See table 1.) However, workers from other major groups begin to appear in these high-earnings deciles. For example, the service major occupational group is represented by public transportation attendants (with a rank of 51) and police and detective supervisors (78)

In the precision production major group, three occupations were ranked in the top 20 percent – elevator installers and repairers (73); supervisory plumbers, pipefitters, and steamfitters (80); and supervisory electricians and power transmission installers (82). In the transportation major group, longshoreworkers ranked 58, with average hourly earnings of $28.91.

Bottom 10 percent. Average hourly earnings ranged from $9.80 to $3.99 for full-time workers in occupations at the bottom 10 percent of the wage ladder. More than one-third of these 43 lowest paying positions were in the service major occupational group; most of the remaining two-thirds were nearly evenly divided among three major groups—handlers, administrative support, and machine operators. The low rate ($3.99 an hour)for waiters and waitresses in the service group may be misleading; the National Compensation Survey does not include tips as part of wages because employers do not pay the tips. Thus, the rate for waiters and waitresses reflects the absence of information on tips. Assistants to waiters and waitresses were ranked 426,with average hourly earnings of $6.16. (Rates for some other low-ranked occupations, such as baggage porters and bellhops, bartenders, parking lot attendants, and taxicab drivers and chauffeurs, were similarly affected by the absence of information on tips.)

Earnings dispersion

As seen in table 2, average hourly earnings varied considerably within and among major occupational groups. The following tabulation highlights the percentage spreads within each of the nine major occupational groups.[2]

Major occupational group	*Percent by which highest paid occupation exceeds the lowest paid occupation within each of the nine major occupational group*
Professional and technical	757
Executive	247
Sales	326
Administration support	163
Precision production	176
Machine operators	117
Transportation	237
Handlers	167
Service	655

The huge spread for professional jobs reflects the disparate jobs classified in the professional major occupational group, ranging from airplane pilots and navigators and physicians at the top end of the scale to health record technologists and technicians and substitute teachers at the low end. When airplane pilots and navigators are excluded from the professional group, the average hourly spread drops to 447 percent. (Likewise, excluding waiters and waitresses from the service group produces a 389-percent spread instead of 655 percent.)

Reliability of the data

The data in this article are estimates from a scientifically selected probability

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Table 1. Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
1	Airplane pilots and navigators	$95.80	9.4	23.0	1,197	Professional
2	Physicians	61.19	23.3	41.8	2,175	Professional
3	Economics teachers	54.47	11.4	43.0	1,558	Professional
4	Physics teachers	52.95	8.5	30.9	1,120	Professional
5	Medical science teachers	51.20	7.6	39.8	1,818	Professional
6	Law teachers	51.15	9.6	39.7	1,771	Professional
7	Natural science teachers, n.e.c.	44.37	4.6	38.6	1,647	Professional
8	Engineering teachers	42.29	8.5	43.8	1,917	Professional
9	Physical education teachers	39.87	11.7	39.3	1,506	Professional
10	Sociology teachers	39.74	8.8	39.0	1,596	Professional
11	Education teachers	39.33	5.4	37.9	1,520	Professional
12	Theology teachers	39.14	5.6	39.1	1,398	Professional
13	History teachers	39.07	8.6	34.7	1,301	Professional
14	Lawyers	38.76	6.3	39.7	2,062	Professional
15	Mathematical scientists, n.e.c.	38.56	21.3	40.0	1,879	Professional
16	Optometrists	38.53	4.9	39.8	2,072	Professional
17	Business, commerce and marketing teachers	38.34	8.3	38.8	1,517	Professional
18	Judges	37.94	7.6	39.2	2,041	Professional
19	English teachers	37.85	9.3	37.7	1,531	Professional
20	Mathematical science teachers	37.82	6.4	38.6	1,511	Professional
21	Social science teachers, n.e.c.	37.63	5.2	39.2	1,578	Professional
22	Chemistry teachers	37.52	9.9	38.7	1,451	Professional
23	Biological science teachers	37.46	8.0	41.2	1,808	Professional
24	Earth, environmental, and marine science teachers	37.39	13.0	39.0	1,602	Professional
25	Managers., marketing, advertising and public relations	37.24	3.0	41.0	2,132	Executive
26	Petroleum engineers	36.75	6.9	40.3	2,083	Professional
27	Physicists and astronomers	36.66	8.0	40.0	2,081	Professional
28	Chemical engineers	36.39	3.0	40.1	2,087	Professional
29	Political science teachers	36.17	9.7	38.8	1,544	Professional
30	Agriculture and forestry teachers	35.55	26.4	37.6	1,668	Professional
31	Health specialties teachers	35.22	8.5	39.9	1,757	Professional
32	Psychology teachers	35.19	9.8	39.0	1,637	Professional
33	Electrical and electronic engineers	33.94	4.9	40.9	2,123	Professional
34	Financial managers	33.87	8.5	40.4	2,101	Executive
35	Sales engineers	33.59	5.5	41.0	2,134	Sales
36	Engineers, n.e.c.	33.51	5.5	40.3	2,098	Professional
37	Aerospace engineers	33.34	3.8	40.1	2,086	Professional
38	Nuclear engineers	33.24	6.2	40.1	2,084	Professional
39	Actuaries	33.00	7.9	38.5	2,002	Professional
40	Administrators, education and related fields	32.71	3.8	39.8	1,939	Executive
41	Managers and administrators, n.e.c.	32.64	3.7	41.7	2,167	Executive
42	Physicians' assistants	32.38	6.8	39.8	2,069	Professional
43	Chemists, except biochemists	31.23	4.5	40.0	2,078	Professional
44	Art, drama and music teachers	31.16	7.2	38.4	1,510	Professional
45	Pharmacists	31.10	2.9	40.3	2,091	Professional
46	Surveyors and mapping scientists	31.05	5.8	39.9	2,077	Professional
47	Social work teachers	30.83	8.9	40.0	1,561	Professional
48	Computer science teachers	30.73	17.0	38.4	1,646	Professional
49	Teachers, special education	30.16	3.6	35.7	1,417	Professional
50	Managers, medicine and health	30.13	3.9	39.8	2,068	Executive
51	Public transportation attendants	30.13	6.3	21.4	1,110	Service
52	Securities and financial services sales occupations	30.11	11.5	39.6	2,059	Sales
53	Personnel and labor relations managers	29.95	10.7	41.1	2,125	Executive
54	Geologists and geodesists	29.85	8.8	40.9	2,126	Professional
55	Computer systems analysts and scientists	29.36	2.8	40.1	2,084	Professional
56	Secondary school teachers	29.16	1.4	37.2	1,423	Professional
57	Economists	29.07	5.3	39.3	2,044	Professional
58	Longshore equipment operators	28.91	5.2	39.9	2,074	Transportation

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
59	Elementary school teachers	$28.86	1.1	36.6	1,395	Professional
60	Metallurgical and materials engineers	28.78	6.4	40.3	2,095	Professional
61	Physical scientists, n.e.c.	28.56	4.6	39.9	2,074	Professional
62	Musicians and composers	28.48	40.1	29.4	1,381	Professional
63	Professional occupations, n.e.c.	28.18	3.5	39.8	2,041	Professional
64	Operations and systems researchers and analysts	28.14	5.3	40.0	2,081	Professional
65	Athletes	28.13	17.2	40.2	2,037	Professional
66	Administrators and officials, public administration	27.80	2.3	39.5	2,045	Executive
67	Trade and industrial teachers	27.64	6.5	38.6	1,656	Professional
68	Actors and directors	27.49	15.6	39.8	2,069	Professional
69	Civil engineers	27.35	3.0	40.3	2,096	Professional
70	Managers, service organizations, n.e.c.	27.19	7.9	39.8	2,064	Executive
71	Dental hygienists	27.09	2.9	36.0	1,874	Professional
72	Psychologists	27.03	4.7	38.9	1,901	Professional
73	Elevator installers and repairers	26.88	8.1	40.0	2,080	Precision production
74	Speech therapists	26.71	3.7	38.3	1,664	Professional
75	Industrial engineers	26.49	2.7	40.6	2,110	Professional
76	Teachers, n.e.c.	26.45	5.5	36.4	1,478	Professional
77	Mechanical engineers	26.20	3.5	42.0	2,186	Professional
78	Supervisors, police and detectives	26.20	3.4	40.1	2,085	Service occupations
79	Helpers, surveyors	25.56	8.6	38.7	2,013	Professional
80	Supervisors, plumbers, pipefitters, and steamfitters	25.35	6.6	40.0	2,079	Precision production
81	Management analysts	25.33	4.4	39.9	2,077	Executive
82	Supervisors, electricians and power transmission installers	25.09	3.4	40.2	2,090	Precision production
83	Medical scientists	25.03	6.2	39.8	2,064	Professional
84	Vocational and educational counselors	24.93	4.8	37.8	1,658	Professional
85	Purchasing agents and buyers, n.e.c.	24.85	6.9	40.0	2,079	Executive
86	Editors and reporters	24.81	6.6	39.4	2,045	Professional
87	Atmospheric and space scientists	24.59	14.5	41.1	2,138	Professional
88	Management related occupations, n.e.c.	24.37	6.2	40.0	2,076	Executive
89	Foreign language teachers	24.22	18.9	42.5	1,658	Professional
90	Sales representatives, mining, manufacturing, and wholesale	24.22	4.7	40.6	2,112	Sales
91	Funeral directors	24.03	15.5	44.0	2,290	Executive
92	Urban planners	23.93	4.6	39.3	2,041	Professional
93	Other financial officers	23.92	4.0	39.4	2,048	Executive
94	Supervisors, carpenters and related workers	23.85	7.2	40.1	2,074	Precision production
95	Librarians	23.76	3.8	38.2	1,773	Professional
96	Chief executives and general administrators, public administration	23.72	33.5	43.0	2,236	Executive
97	Supervisors, extractive occupations	23.65	16.5	41.2	2,141	Precision production
98	Public relations specialists	23.60	7.1	39.1	2,000	Professional
99	Tile setters, hard and soft	23.55	10.1	40.0	2,080	Precision production
100	Underwriters	23.45	7.9	38.7	1,982	Executive
101	Locomotive operating occupations	23.44	9.8	40.3	2,094	Transportation
102	Biological and life scientists	23.36	9.9	39.7	2,060	Professional
103	Architects	23.22	5.6	39.7	2,066	Professional
104	Computer programmers	23.19	3.0	39.6	2,053	Professional
105	Supervisors, computer equipment operators	23.18	4.5	39.8	2,067	Administrative support
106	Power plant operators	23.09	2.7	39.8	2,069	Precision production
107	Electrical power installers and repairers	23.06	2.5	40.0	2,080	Precision production
108	Physical therapists	22.85	4.2	39.7	2,038	Professional

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
109	Real estate sales occupations	$22.84	13.5	37.8	1,967	Sales
110	Occupational therapists	22.79	4.8	38.7	1,941	Professional
111	Supervisors, firefighters and fire prevention occupations	22.34	4.7	49.2	2,558	Service
112	Forestry and conservation scientists	22.29	7.3	40.2	2,091	Professional
113	Painters, sculptors, craft artists, and artist print-makers	22.07	19.8	40.1	2,083	Professional
114	Buyers, wholesale and retail trade, except farm products	21.91	7.0	40.5	2,107	Executive
115	Insurance sales occupations	21.80	5.6	39.7	2,066	Sales occupations
116	Personnel, training, and labor relations specialists	21.75	3.1	39.6	2,058	Executive
117	Sheetmetal duct installers	21.74	8.5	39.7	2,062	Precision production
118	Advertising and related sales occupations	21.73	7.4	39.5	2,054	Sales occupations
119	Registered nurses	21.69	1.3	39.0	2,013	Professional
120	Mining occupations, n.e.c.	21.61	3.1	39.5	2,055	Precision production
121	Agricultural and food scientists	21.53	9.6	39.8	2,042	Professional
122	Accountants and auditors	21.51	1.8	39.6	2,042	Executive
123	Archivists and curators	21.51	10.6	39.3	2,046	Professional
124	Stevedores	21.43	4.8	39.3	2,046	Handlers
125	Inspectors and compliance officers, except construction	21.34	3.6	39.3	2,041	Executive
126	Telephone line installers and repairers	21.33	2.8	40.0	2,076	Precision production
127	Social scientists, n.e.c.	21.28	22.9	38.7	2,011	Professional
128	Camera, watch, and musical instrument repairers	21.28	12.7	39.0	2,030	Precision production
129	Construction inspectors	21.19	4.0	40.2	2,087	Executive
130	Tool and die makers	21.19	2.3	40.1	2,088	Precision production
131	Police and detectives, public service	21.01	1.5	40.0	2,074	Service
132	Managers, properties and real estate	21.00	7.9	40.3	2,095	Executive
133	Brickmasons and stonemasons	20.91	8.9	39.1	1,979	Precision production
134	Miscellaneous plant and system operators, n.e.c.	20.91	7.1	40.0	2,065	Precision production
135	Industrial engineering technicians	20.89	5.5	40.4	2,102	Professional
136	Railroad brake, signal and switch operators	20.81	12.4	40.0	2,080	Transportation
137	Designers	20.80	6.2	39.6	2,056	Professional
138	Aircraft engine mechanics	20.75	5.1	40.0	2,080	Precision production
139	Plumbers, pipefitters and steamfitters	20.74	4.8	39.7	2,065	Precision production
140	Mechanical engineering technicians	20.69	3.8	40.3	2,095	Professional
141	Aircraft mechanics except engine	20.69	4.2	40.0	2,080	Precision production
142	Sales occupations, other business services	20.67	7.5	40.2	2,088	Sales
143	Supervisors, construction trades, n.e.c.	20.43	4.3	40.0	2,072	Precision production
144	Sales workers, motor vehicles and boats	20.32	5.0	45.1	2,346	Sales
145	Drywall installers	20.32	13.7	39.1	2,032	Precision production
146	Supervisors, brickmasons, stonemasons, and tilesetters	20.26	12.9	40.0	2,080	Precision production
147	Stationary engineers	20.16	3.6	39.9	2,074	Precision production
148	Engineering technicians, n.e.c.	20.12	2.9	39.8	2,069	Professional
149	Supervisors, production occupations	19.97	3.1	40.6	2,108	Precision production
150	Electricians	19.81	4.3	39.8	2,071	Precision production
151	Technical writers	19.78	9.9	40.0	2,064	Professional
152	Patternmakers and modelmakers, metal	19.77	6.5	40.0	2,080	Precision production

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
153	Mechanical controls and valve repairers	$19.72	4.4	40.0	2,080	Precision production
154	Radiological technicians	19.66	4.6	39.6	2,058	Professional
155	Electronic repairers, communications and industrial equipment	19.59	2.9	39.9	2,072	Precision production
156	Precision inspectors, testers, and related workers, n.e.c.	19.53	7.7	40.0	2,080	Precision production
157	Technical and related occupations, n.e.c.	19.42	3.3	39.7	2,055	Professional
158	Carpet installers	19.41	10.2	39.6	2,061	Precision production
159	Drafters	19.18	3.2	40.0	2,080	Professional
160	Adjusters and calibrators	19.12	20.3	40.0	2,080	Precision production
161	Fire inspection and fire prevention occupations	19.05	7.5	41.7	2,170	Service occupations
162	Telephone installers and repairers	18.98	3.0	40.0	2,080	Precision production
163	Operating engineers	18.94	6.3	40.0	1,957	Transportation
164	Millwrights	18.81	5.7	40.0	2,080	Precision production
165	Respiratory therapists	18.69	2.0	39.2	2,040	Professional
166	Street and door to door sales workers	18.69	13.3	38.6	2,006	Sales
167	Supervisors, painters, paperhangers and plasterers	18.69	3.1	40.2	2,092	Precision production
168	Supervisors, financial records processing	18.57	3.4	39.5	2,052	Administrative support
169	Electrical and electronic technicians	18.53	4.8	39.9	2,076	Professional
170	Hoist and winch operators	18.50	17.2	42.0	2,185	Transportation
171	Science technicians, n.e.c.	18.49	8.0	39.2	2,039	Professional
172	Heavy equipment mechanics	18.48	4.1	40.0	2,069	Precision production
173	Automobile body and related repairers	18.44	9.9	40.2	2,090	Precision production
174	Supervisors, distribution, scheduling, and adjusting clerks	18.39	3.6	40.3	2,097	Administrative support
175	Purchasing agents and buyers, farm products	18.38	15.6	39.6	2,060	Executive
176	Chief communications operators	18.30	7.1	40.0	2,080	Administrative support
177	Ship captains and mates except fishing boats	18.22	8.4	51.6	2,359	Transportation
178	Dietitians	18.21	3.3	39.6	2,061	Professional
179	Broadcast equipment operators	18.08	11.3	39.8	2,068	Professional
180	Supervisors, material moving equipment	18.08	3.6	40.6	2,112	Transportation
181	Photographers	18.06	8.3	40.1	2,083	Professional
182	Chemical technicians	18.02	3.7	40.0	2,073	Professional
183	Prekindergarten and kindergarten	17.94	7.4	38.0	1,659	Professional
184	Religious workers, n.e.c.	17.87	16.4	40.0	1,979	Professional
185	Supervisors, agriculture-related workers	17.81	6.9	38.7	2,012	Handlers
186	Industrial machinery repairers	17.80	1.8	39.9	2,074	Precision production
187	Supervisors, motor vehicle operators	17.62	5.5	42.8	2,225	Transportation
188	Locksmiths and safe repairers	17.57	5.4	40.0	2,080	Precision production
189	Legal assistants	17.56	3.3	39.1	2,035	Professional
190	Precision grinders, filers, and tool sharpeners	17.55	6.8	40.0	2,080	Precision production
191	Therapists, n.e.c.	17.54	4.7	39.2	2,030	Professional
192	Tool programmers, numerical control	17.54	4.7	40.2	2,092	Professional
193	Supervisors, guards	17.54	7.0	38.7	1,927	Service occupations
194	Managers, food servicing and lodging establishments	17.52	5.0	43.2	2,162	Executive
195	Precision assemblers, metal	17.48	2.1	40.0	2,078	Precision production
196	Plumbers, pipefitters and steamfitters apprentices	17.43	13.8	39.8	2,071	Precision production
197	Carpenters	17.28	3.3	39.8	2,055	Precision production
198	Insurance adjusters, examiners,and investigators	17.20	3.8	39.1	2,033	Administrative support
199	Clergy	17.17	13.2	47.1	2,450	Professional

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
200	Drillers, oil well	$17.16	25.2	40.0	2,036	Precision production
201	Firefighting occupations	17.15	3.0	48.3	2,512	Service occupations
202	Sheriffs, bailiffs, and other law enforcement officers	17.06	2.7	39.8	2,071	Service occupations
203	Cost and rate clerks	17.04	13.1	40.0	2,080	Administrative support
204	Supervisors, general office	16.94	3.1	39.7	2,063	Administrative support
205	Data processing equipment repairers	16.85	9.4	39.8	2,067	Precision production
206	Separating, filtering, and clarifying machine operators	16.77	3.6	39.8	2,069	Machine operators
207	Sheet metal workers	16.73	4.9	40.0	2,077	Precision production
208	Crane and tower operators	16.73	5.4	39.8	2,067	Transportation
209	Supervisors, mechanics and repairers	16.72	13.4	40.4	2,101	Precision production
210	Inspectors, testers, and graders	16.68	3.5	40.4	2,103	Precision production
211	Supervisors, sales occupations	16.59	3.7	41.4	2,154	Sales
212	Structural metal workers	16.58	4.6	38.9	1,981	Precision production
213	Machinists	16.58	3.8	40.0	2,079	Precision production
214	Supervisors, handlers, equipment cleaners, and laborers, n.e.c.	16.56	7.0	39.2	2,030	Handlers
215	Hand molders and shapers except jewelers	16.52	5.6	40.0	2,080	Precision production
216	Surveying and mapping technicians	16.44	7.2	39.8	2,071	Professional
217	Mining machine operators	16.30	13.3	40.0	2,080	Precision production
218	Production coordinators	16.28	2.8	40.0	2,076	Administrative support
219	Automobile mechanics	16.26	3.9	40.3	2,096	Precision production
220	Concrete and terrazzo finishers	16.25	12.3	37.9	1,896	Precision production
221	Biological technicians	16.22	5.1	39.7	2,064	Professional
222	Clinical laboratory technologists and technicians	16.11	3.7	38.4	1,996	Professional
223	Photoengravers and lithographers	16.05	9.3	39.2	2,037	Machine operators
224	Miscellaneous precision workers, n.e.c.	15.94	8.3	40.0	2,078	Precision production
225	Mechanics and repairers, n.e.c.	15.93	2.2	39.9	2,072	Precision production
226	Water and sewer treatment plant operators	15.77	3.7	40.0	2,079	Precision production
227	Layout workers	15.61	6.3	40.0	2,080	Precision production
228	Heating, air conditioning, and refrigeration mechanics	15.57	3.0	40.0	2,075	Precision production
229	Correctional institution officers	15.48	4.4	39.9	2,031	Service
230	Sales workers, furniture & home furnishings	15.44	12.3	40.7	2,117	Sales
231	Precision food production occupations	15.32	20.0	37.4	1,575	Precision production
232	Tool and die maker apprentices	15.17	8.0	39.8	2,071	Precision production
233	Grader, dozer, and scrapper operators	15.15	5.6	40.0	2,071	Transportation
234	Production samplers and weighers	15.14	3.7	39.6	2,059	Machine operators
235	Social workers	15.13	7.4	39.3	2,027	Professional
236	Proofreaders	15.06	15.1	39.7	2,062	Administrative support
237	Dental laboratory and medical appliance technicians	14.97	2.7	38.9	2,024	Precision production
238	Office machine repairers	14.93	11.4	40.0	2,079	Precision production
239	Computer operators	14.89	2.7	39.6	2,053	Administrative support
240	Meter readers	14.89	3.5	40.0	2,081	Administrative support
241	Miscellaneous material moving equipment operators, n.e.c.	14.86	4.3	39.9	2,074	Transportation
242	Construction trades, n.e.c.	14.85	5.5	39.7	2,032	Precision production
243	Artists, performers, and related workers, n.e.c.	14.84	13.7	37.8	1,854	Professional
244	Lathe and turning machine set-up operators	14.81	3.5	40.0	2,079	Machine operators
245	Health technologists and technicians, n.e.c.	14.69	4.4	39.7	2,057	Professional
246	Eligibility clerks, social welfare	14.68	4.6	39.2	2,014	Administrative support

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
247	Stenographers	$14.66	6.0	39.3	2,042	Administrative support
248	Carpenter apprentices	14.66	7.7	40.0	1,979	Precision production
249	Excavating and loading machine operators	14.66	4.3	40.0	2,047	Transportation
250	Driver-sales workers	14.64	5.0	40.7	2,109	Transportation
251	Recreation workers	14.63	4.3	39.3	2,041	Professional
252	Welders and cutters	14.55	2.7	40.0	2,080	Machine operators
253	Bus, truck, and stationary engine mechanics	14.50	6.0	40.1	2,083	Precision production
254	Glaziers	14.50	6.9	40.0	2,080	Precision production
255	Secretaries	14.46	3.7	38.9	1,999	Administrative support
256	Heat treating equipment operators	14.46	3.1	40.0	2,078	Machine operators
257	Roofers	14.45	10.1	38.2	1,962	Precision production
258	Machinery maintenance occupations	14.44	3.2	39.9	2,066	Precision production
259	Furnace, kiln, and oven operators, except food	14.37	5.4	40.0	2,081	Machine operators
260	Numerical control machine operators	14.36	2.8	40.0	2,078	Machine operators
261	Garbage collectors	14.33	7.7	40.0	2,079	Handlers
262	Printing press operators	14.28	3.6	39.6	2,054	Machine operators
263	Weighers, measurers, checkers, and samplers	14.18	7.8	40.0	2,076	Administrative support
264	Payroll and timekeeping clerks	14.15	2.8	39.7	2,061	Administrative support
265	Rolling machine operators	14.06	8.8	40.0	2,080	Machine operators
266	Personnel clerks except payroll and timekeeping	14.02	2.7	39.5	2,047	Administrative suppo
267	Licensed practical nurses	13.99	1.3	39.3	2,040	Professional
268	Painters, construction and maintenance	13.99	4.3	39.6	2,007	Precision production
269	Painting and paint spraying machine operators	13.90	13.1	40.0	2,074	Machine operators
270	Mixing and blending machine operators	13.85	4.4	39.8	2,058	Machine operators
271	Bus drivers	13.84	3.4	37.0	1,713	Transportation
272	Transportation ticket and reservation agents	13.82	3.9	39.7	2,063	Administrative support
273	Material recording, scheduling, and distribution clerks, n.e.c.	13.78	8.6	39.9	2,074	Administrative support
274	Precision stones and metals workers	13.74	14.8	40.0	2,080	Precision production
275	Fabricating machine operators, n.e.c.	13.67	2.3	39.9	2,076	Machine operators
276	Upholsterers	13.66	13.2	39.4	2,047	Precision production
277	Dispatchers	13.65	4.1	40.1	2,084	Administrative support
278	Milling and planing machine operators	13.56	6.9	39.8	2,068	Machine operators
279	Typesetters and compositors	13.56	6.3	38.2	1,931	Machine operators
280	Sales workers, parts	13.52	5.5	40.7	2,117	Sales
281	Cabinet makers and bench carpenters	13.41	12.2	39.9	2,076	Precision production
282	Classified ad clerks	13.38	6.2	39.2	2,040	Administrative support
283	Sales workers, apparel	13.34	25.2	38.3	1,972	Sales
284	Sales workers, hardware and building supplies	13.31	6.6	41.2	2,140	Sales
285	Expeditors	13.29	4.1	39.8	2,068	Administrative support
286	Sales support occupations, n.e.c.	13.28	5.0	40.2	2,078	Sales
287	Investigators and adjusters except insurance	13.28	2.3	39.7	2,067	Administrative support
288	Insulation workers	13.27	8.9	39.8	2,061	Precision production
289	Tailors	13.23	5.2	39.7	2,066	Precision production
290	Order clerks	13.22	1.9	39.7	2,061	Administrative support
291	Lathe and turning machine operators	13.21	5.8	39.9	2,077	Machine operators
292	Industrial truck and tractor equipment operators	13.21	3.6	39.9	2,072	Transportation

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
293	Electrician apprentices	13.20	5.3	40.0	2,080	Precision production
294	Small engine repairs	13.19	4.5	40.0	1,769	Precision production
295	Forging machine operators	13.14	4.9	39.9	2,074	Machine operators
296	Household appliance and power tool repairers	13.12	6.0	39.6	2,058	Precision production
297	Sailors and deckhands	13.09	11.9	45.3	2270	Transportation
298	Farm equipment mechanics	13.08	5.2	40.7	2,116	Precision production
299	Protective service occupations, n.e.c.	13.03	6.3	39.3	1,737	Service occupations
300	Truck drivers	12.96	2.1	41.8	2,152	Transportation
301	Metal plating machine operators	12.91	3.7	39.6	2,059	Machine operators
302	Production testers	12.85	3.3	40.0	2,075	Machine operators
303	Dental assistants	12.82	9.9	38.0	1,974	Service
304	Statistical clerks	12.81	5.5	39.2	2,036	Administrative support
305	Slicing and cutting machine operators	12.81	4.5	39.9	2,073	Machine operators
306	Grinding, abrading, buffing, and polishing machine operators	12.78	3.0	40.0	2,079	Machine operators
307	Folding machine operators	12.76	3.8	39.6	2,058	Machine operators
308	Typists	12.74	1.8	38.5	1,975	Administrative support
309	Telephone operators	12.60	3.0	39.2	2,036	Administrative support
310	Sales workers, other commodities	12.52	7.2	39.7	2,066	Sales occupations
311	Administrative support occupations, n.e.c.	12.52	1.9	39.4	2,035	Administrative support
312	Photographic process machine operators	12.47	5.9	39.9	2,070	Machine operators
313	Peripheral equipment operators	12.44	6.9	39.6	2,058	Administrative support
314	Sheet metal worker apprentices	12.40	16.5	34.9	1,793	Precision production
315	Construction laborers	12.36	4.8	39.9	1,999	Handlers
316	Substitute teachers	12.31	14.3	32.6	1,271	Professional
317	Records clerks, n.e.c.	12.29	2.2	39.3	2,025	Administrative support
318	Winding and twisting machine operators	12.27	7.8	39.9	2,075	Machine operators
319	Stock and inventory clerks	12.18	2.4	39.8	2,065	Administrative support
320	Bookbinders	12.17	2.7	39.9	2,073	Precision production
321	Correspondence clerks	12.16	3.9	39.8	2,059	Administrative support
322	Crushing and grinding machine operators	12.13	7.2	40.0	1,997	Machine operators
323	Information clerks, n.e.c.	12.11	3.3	39.3	2,038	Administrative support
324	Punching and stamping press operators	12.11	5.2	40.0	2,071	Machine operators
325	Miscellaneous machine operators, n.e.c.	12.10	3.7	39.9	2,073	Machine operators
326	Traffic, shipping and receiving clerks	12.09	3.2	39.8	2,072	Administrative support
327	Bookkeepers, accounting and auditing clerks	11.96	5.1	39.6	2,057	Administrative support
328	Guides	11.96	9.3	39.5	2,016	Service occupations
329	Bill and account collectors	11.93	4.3	39.2	2,037	Administrative support
330	Supervisors, food preparation and service occupations	11.92	3.7	42.2	2,139	Service occupations
331	Supervisors, cleaning and building service workers	11.92	10.7	39.8	2,068	Service occupations
332	Hand molding, casting, and forming occupations	11.91	2.9	40.0	2,080	Machine operators
333	General office clerks	11.88	1.3	39.3	2,025	Administrative support
334	Furniture and wood finishers	11.82	4.9	40.0	2,080	Precision production
335	Production inspectors, checkers and examiners	11.81	3.9	39.9	2,076	Machine operators
336	Extruding and forming machine operators	11.78	4.0	39.6	2,058	Machine operators
337	Assemblers	11.76	3.9	39.9	2,073	Machine operators
338	Paving, surfacing, and tamping equipment operators	11.68	12.3	40.0	2,005	Precision production
339	Packaging and filling machine operators	11.68	2.9	39.9	2,076	Machine operators

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
340	Automobile mechanic apprentices	$11.65	8.6	40.3	2,097	Precision production
341	Animal caretakers except farm	11.56	9.7	38.5	1,807	Handlers
342	Freight, stock, and material handlers, n.e.c.	11.53	3.3	39.7	2,060	Handlers
343	Dressmakers	11.45	5.5	38.4	1,998	Precision production
344	Library clerks	11.35	3.3	38.0	1,788	Administrative support
345	Optical goods workers	11.27	10.2	39.9	2,073	Precision production
346	Drilling and boring machine operators	11.22	11.2	40.0	2,079	Machine operators
347	Health record technologists and technicians	11.18	9.9	39.3	2,043	Professional
348	Electrical and electronic equipment assemblers	11.15	4.0	40.0	2,077	Precision production
349	Molding and casting machine operators	11.15	4.6	39.9	2,068	Machine operators
350	Cementing and gluing machine operators	11.15	10.2	40.0	2,080	Machine operators
351	Data entry keyers	11.08	2.2	39.5	2,014	Administrative support
352	Compressing and compacting machine operators	11.06	3.5	40.0	2,080	Machine operators
353	Sawing machine operators	11.03	6.5	40.0	2,080	Machine operators
354	Knitting, looping, taping, and weaving machine operators	11.02	1.7	40.0	2,078	Machine operators
355	Helpers, mechanics and repairers	10.96	4.8	39.7	2,066	Handlers
356	Health aides, except nursing	10.88	3.7	39.4	2,039	Service
357	Interviewers	10.87	2.8	38.8	2,003	Administrative support
358	Miscellaneous hand working occupations, n.e.c.	10.87	4.1	39.7	2,061	Machine operators
359	Washing, cleaning, and pickling machine operators	10.77	8.9	40.0	2,080	Machine operators
360	Legislators	10.74	33.4	32.5	1,126	Executive
361	Duplicating machine operators	10.73	5.5	39.5	2,050	Administrative support
362	Pest control occupations	10.72	11.4	40.0	2,080	Service occupations
363	Shaping and jointing machine operators	10.71	5.2	40.0	2,080	Machine
364	Hand inspectors, n.e.c.	10.71	5.9	39.8	2,071	Machine operators
365	Billing clerks	10.69	3.9	39.8	2,072	Administrative support
366	Helpers, construction trades	10.66	3.2	39.9	2,031	Handlers
367	Billing, posting, and calculating machine operators	10.55	7.0	35.3	1,836	Administrative support
368	Butchers and meat cutters	10.49	4.3	40.0	2,080	Precision production
369	Receptionists	10.43	2.4	39.1	2,026	Administrative support
370	Hairdressers and cosmetologists	10.41	4.9	38.0	1,975	Service
371	Graders and sorters except agricultural	10.31	3.8	39.8	2,070	Machine operators
372	Hand painting, coating, and decorating occupations	10.30	6.1	40.0	2,079	Machine operators
373	Stock handlers and baggers	10.28	2.6	39.8	2,059	Handlers
374	Food batchmakers	10.26	9.8	40.0	2,077	Precision production
375	Janitors and cleaners	10.25	1.4	39.4	2,037	Service
376	Mail preparing and paper handling machine operators	10.23	5.8	39.5	2,053	Administrative support
377	Shoe machine operators	10.17	10.4	40.0	2,080	Machine operators
378	Laborers except construction, n.e.c.	10.17	2.0	39.6	2,056	Handlers
379	Roasting and baking machine operators, food	10.14	5.6	40.0	2,080	Machine operators
380	Production helpers	10.10	3.9	39.8	2,069	Handlers
381	Bakers	9.98	10.4	35.8	1,858	Precision production
382	Solders and braziers	9.89	7.8	40.0	2,079	Machine operators
383	Communications equipment operators, n.e.c.	9.84	11.9	39.7	2,012	Administrative support
384	Bank tellers	9.84	2.3	39.2	2,039	Administrative support
385	Mail clerks except postal service	9.80	6.2	38.9	2,024	Administrative support
386	Sales workers, shoes	9.75	12.4	39.6	2,057	Sales occupations

Table 1. Continued—Hourly earnings of full-time workers and weekly and annual work hours, National Compensation Survey, 2000

Rank	Occupation	Hourly earnings[1]		Mean hours[2]		Major occupational group[3]
		Mean	Relative error[4] (percent)	Weekly	Annual	
387	Brickmason and stonemason apprentices	$9.73	7.8	40.0	2,080	Precision production
388	Teachers' aides	9.72	1.9	35.6	1,364	Administrative support
389	Hand packers and packagers	9.58	5.2	39.8	2,062	Handlers
390	Groundskeepers and gardeners except farm	9.57	6.5	39.8	1,920	Handlers
391	Garage and service station related occupations	9.50	6.1	39.1	2,032	Handlers
392	Taxicab drivers and chauffeurs	9.41	4.6	39.7	2,062	Transportation
393	Guards and police except public service	9.38	2.2	39.4	2,040	Service
394	Wood lathe, routing, and planing machine operators	9.37	11.7	39.7	2,065	Machine operators
395	Textile cutting machine operators	9.37	7.5	40.0	2,079	Machine operators
396	Inspectors, agricultural products	9.26	10.0	39.8	1,984	Handlers
397	File clerks	9.25	3.7	39.4	2,048	Administrative support
398	Messengers	9.25	8.0	39.2	2,036	Administrative support
399	Nursing aides, orderlies and attendants	9.11	1.2	38.7	2,011	Service
400	Motor transportation occupations, n.e.c.	9.10	6.4	38.8	1,995	Transportation
401	Child care workers, n.e.c.	9.08	2.9	39.4	1,969	Service
402	Vehicle washers and equipment cleaners	9.03	3.8	40.0	2,070	Handlers
403	Office machine operators, n.e.c.	8.93	4.1	39.6	2,060	Administrative support
404	Service occupations, n.e.c.	8.92	12.7	39.1	2,016	Service
405	Welfare service aides	8.87	3.5	39.3	2,028	Service
406	Cooks	8.82	2.3	38.5	1,953	Service
407	Hotel clerks	8.81	3.3	40.2	2,086	Administrative support
408	Parking lot attendants	8.58	5.7	40.0	2,078	Transportation
409	Helpers, extractive occupations	8.50	11.2	37.7	1,960	Handlers
410	Machine feeders and offbearers	8.45	8.8	39.9	2,073	Handlers
411	Hand cutting and trimming occupations	8.35	8.4	40.0	2,079	Machine operators
412	Pressing machine operators	8.31	4.4	39.9	2,076	Machine operators
413	Cashiers	8.26	1.3	39.2	2,031	Sales
414	Textile sewing machine operators	8.04	4.5	39.9	2,074	Machine operators
415	Nursery workers	8.03	3.4	40.0	1,951	Handlers
416	Kitchen workers, food preparation	8.02	2.8	38.8	1,942	Service
417	Sales counter clerks	7.88	3.7	39.2	2,038	Sales
418	Maids and housemen	7.87	2.5	37.9	1,969	Service
419	Early childhood teachers' assistants	7.84	5.4	37.8	1,783	Service
420	Food preparation occupations, n.e.c.	7.72	1.3	38.2	1,931	Service
421	Laundering and dry cleaning machine operators	7.72	4.9	39.1	2,021	Machine operators
422	Bartenders	7.08	6.2	38.4	1,998	Service
423	Food counter, fountain, and related occupations	7.03	4.3	36.9	1,899	Service
424	Attendants, amusement and recreation facilities	6.68	5.8	39.7	2,054	Service
425	Baggage porters and bellhops	6.30	7.6	39.0	2,026	Service
426	Waiters'/Waitresses' assistants	6.16	3.6	38.3	1,985	Service
427	Waiters and waitresses	3.99	4.0	37.2	1,933	Service

[1] Earnings are straight-time hourly wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, and hazard pay. Excluded are premium pay for overtime, vacations, and holidays; nonproduction bonuses; and tips. The mean is computed by totaling the pay of all workers and dividing by the number of workers, weighted by hours.

[2] Employees are classified as working either a full-time or part-time schedule based on the definition used by each establishment.

[3] The National Compensation Survey classifies occupations into nine major groups. The full titles used are: (1) professional specialty and technical; (2) executive, administrative, and managerial; (3) sales; (4) administrative support, including clerical; (5) precision production, craft, and repair; (6) machine operators, assemblers, and inspectors; (7) transportation and material moving; (8) handlers, equipment cleaners, helpers, and laborers; and (9) service occupations, except private households.

[4] The relative standard error is the standard error expressed as a percent of the estimate. It can be used to calculate a "confidence interval" around a sample estimate.

NOTE. The survey covers all 50 States. Collection was conducted between June 1999 and April 2001. The average reference period was July 2000.

sample. There are two types of errors possible in an estimate based on a sample survey, sampling and nonsampling.

Sampling errors occur because observations come only from a sample and not from an entire population. The sample used for the National Compensation Survey is one of a number of possible samples of the same size that could have been selected using the sample design. Estimates derived from the different samples would differ from each other.

A measure of the variation among these differing estimates is called the standard error or sampling error. It indicates the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error is the standard error divided by the estimate. The relative standard errors are presented for all of the occupations in table 1.

The standard error can be used to calculate a "confidence interval" around a sample estimate. As an example, the mean hourly earnings for physicians were $61.19 and a relative standard error of 23.3 percent for this estimate. At the 90-percent level, the confidence interval for this estimate is $37.74 to $84.64 ($61.19 plus and minus 1.645 times 23.3 percent [that is, .233] = $23.45); ($61.19 + $23.45 = $84.64; $61.19 – $23.45 = $37.74). If all possible samples were selected to estimate the population value, the interval from each sample would include the true population value approximately 90 percent of the time.

Because standard errors may somewhat affect the actual rankings, readers are advised to view with caution the rankings shown in this article.

Nonsampling errors also affect survey results. They can stem from many sources, such as inability to obtain information for some establishments, difficulties with survey definitions, inability of the respondents to provide correct information, or mistakes in recording or coding the data obtained. Although they are not specifically measured, the nonsampling errors are expected to be minimal due to the extensive training of the field economists who gather the survey data by personal visit, computer edits of the data, and detailed data review.

The major occupational groups

Following is a brief description of the nine major occupational groups, the types of occupations included in each group, and a general description of the duties and skills required to fill the positions.

Professional specialty and technical occupations. This major occupational group includes occupations concerned with the study, application, and/or administration of physical, mathematical, scientific, engineering, architectural, social, medical, legal statute, biological, behavioral, library, and/or religious laws, principles, practices, or theories. Some occupations are concerned with interpreting, informing, expressing, or promoting ideas, products, and so forth by written, artistic, sound, or physical mediums. Certain occupations that provide support in all the above fields are included in the professional group. Most professional occupations require educational preparation.

Executive, administrative, and managerial occupations. Managers plan, organize, direct, and control the major functions of an industrial, commercial, or governmental establishment or department through subordinates who are at the managerial or supervisory level. Managers make decisions and establish objectives for the department or establishment; they are generally not directly concerned with the fabrication of products or with the provision of services. They possess a knowledge of the day-to-day operation of the organization, but do not necessarily have the detailed knowledge required of a first line supervisor. Most managers are classified in this major occupational group.

In the case of small establishments or departments, employees who plan, organize, direct, or control major functions may also perform functions normally assigned to supervisors, such as supervising lower level employees. These employees are considered as managers.

This group also includes management-related workers who implement the establishment functions in support of management at the operational level. Examples of these specialized functions are analyzing financial records and policies, reviewing organizational structures and methods, purchasing goods for internal organizational use, enforcing standards and regulations, and so forth.

Sales. Included in the sales major occupational group are occupations concerned with the selling of goods and services or property, purchasing goods and services for resale, or conducting wholesale and retail business. Sales representatives or agents and sales workers require knowledge of the goods or services sold, along with the ability to demonstrate product(s), receive payments, and perform other sales-related activities. Supervisors who coordinate the activities of workers who buy and sell goods and services are included. Sales clerks and cashiers who are primarily concerned with receiving and disbursing funds, and require no special product knowledge, are also included in this major occupational group.

Administrative support occupations, including clerical. This major occupational group includes all of the broad groups of occupations performing activities relating to preparing, transcribing, systematizing, and preserving written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; storing, distributing, and accounting for stores of materials; operating telephone switchboards, distributing mail, and de-

Table 2. Highest and lowest paying ocupations within each major occupational group of the National Compensation Survey, 2000

Major occupational group	Highest-paying occupation			Lowest-paying occupation		
	Occupation	Mean hourly earnings	Rank	Occupation	Mean hourly earnings	Rank
Professional and technical	Airplane pilots and navigators	$95.80	1	Health record technologists	$11.18	347
Executive	Managers, marketing, advertising, and public relations	37.24	25	Legislators	10.74	360
Sales occupations	Sales engineers	33.59	35	Sales counter clerks	7.88	417
Administrative support	Supervisors, computer equipment operators	23.18	105	Hotel clerks	8.81	407
Precision production	Elevator installers and repairers	26.88	73	Brickmason and stonemason apprentices	9.73	387
Machine operators	Separating, filtering, and clarifying machine operators	16.77	206	Laundering and dry cleaning machine operators	7.72	421
Transportation	Longshore equipment operators	28.91	58	Parking lot attendants	8.58	408
Handlers	Stevedores	21.43	124	Nursery workers	8.03	415
Service occupations	Public transportation attendants	30.13	51	Waiters and waitresses	3.99	427

livering messages; and performing other administrative and clerical support.

Precision production, craft, and repair. This group includes occupations involved in the fabricating, processing, inspecting, or repairing of material, products, or structural units. Incumbents must have a thorough and comprehensive knowledge of processes involved in their work, usually acquired through apprenticeship or intensive training. Workers must exercise considerable independent judgment and must usually display a high degree of manual dexterity.

Helpers are excluded from this major occupational group, unless specifically included. However, apprentices who are learning a craft or trade through on-the-job training and a formal apprenticeship training program are included, unless specifically excluded.

Machine operators, assemblers, and inspectors. Workers in this major occupational group set up and operate machinery, perform repetitive manual or machine operations, or tend and control machines as part of a fairly well-defined work routine where some independent judgment or skill may be required.

Transportation and material moving occupations. This major occupational group covers workers concerned with activities that are in immediate support of the operation and performance of transportation vehicles used to transport people or material. It includes workers involved in the operation of material moving equipment that is stationary or has limited range. It also includes the supervisors of these workers.

Handlers, equipment cleaners, helpers, and laborers. Workers in this major occupational group perform unskilled, simple duties, primarily manual, that may be learned within a short period of time and that require little or no independent judgment. These occupations ordinarily require little or no previous experience. Duties may require moderate to strenuous physical exertion.

Service occupations, except private households. This major occupational group includes occupations concerned with preparing and serving food and drinks in commercial, institutional, or other establishments, providing lodging and related services, providing grooming, cosmetic, and other personal and health care services for children and adults, providing protection for people and property, attending to the comfort or requests of patrons of amusement and recreation facilities, and performing cleaning and maintenance services to interiors of buildings. Workers in these occupations provide personal and protective services to individuals and commercial entities. An alphabetical index of the occupations in table 1 is on the Internet at: **http://www.bls.gov/ncs/**

Notes

[1] More information on the scope of the National Compensation Surveys is available on the Internet at **http://www.bls.gov/ncs** or in *National Compensation Survey: Occupational Wages in the United States, 2000,* Bulletin 2548 (Bureau of Labor Statistics, 2001). The Internet site also provides comprehensive results of the 2000 survey.

[2] The spreads are calculated by dividing the rate for the highest paying occupation by the lowest paying occupation within a major occupational group, multiplying by 100, and subtracting 100. For example, $95.80/ $11.18 = 8.57; 8.57 x 100 – 100 = 757.

Perceiving inflation

The public does not predict inflation very well. In fact, according to an *Economic Commentary* released recently by the Federal Reserve Bank of Cleveland, the average perception of past rates of price increase also tends to be quite wide of the mark. Write Michael F. Bryan and Guhan Venkatu, "... the average rate at which respondents thought prices had risen over the previous 12 months was about 6.0 percent. This 'perception' of inflation is more than twice the rise recorded by the Consumer Price Index (CPI) over the same period (2.7 percent)."

Their data also suggest that perceptions of inflation vary with many demographic characteristics of the respondent: higher incomes are associated with lower estimates and predictions of inflation, married respondents see lower inflation than singles, whites less than nonwhites, and so forth.

But most salient to Bryan and Venkatu was the fact that men and women—even after holding many of these other variable constant—subscribe to different ideas as to the rate of inflation. Women, after the regression-based adjustment, perceived current and expected inflation to be about 2 percentage points higher than men did after a similar adjustment.

None of several factors that might explain the gap—different consumption patterns, differing familiarity with the CPI itself, different frequencies of shopping—appeared to Bryan and Venkatu to be large enough to explain it. So they leave their readers with a puzzle, one they think will make for interesting, even "provocative" conversation.

Explaining economic growth

Economic growth occurs due to increases in the inputs of production—such as labor, capital, and materials—and increases in efficiency of input use (which is often referred to as total factor productivity or TFP). A question that arises is which of these, input or TFP, is more responsible for income differentials across countries.

In "Technological Diffusion, Conditional Convergence, and Economic Growth," (NBER Working Paper Number 8713), David E. Bloom and Jaypee Sevilla (both of Harvard University) and David Canning (of Queen's University of Belfast) tackle this question. They note that microeconomic studies often suggest that income differentials across countries are explained mostly by differences in TFP. However, in some macroeconomic studies, inputs appear to have more of a role; such studies may "pick up externalities to physical and human capital that appear at the aggregate level but do not affect private returns."

In their study, Bloom, Sevilla, and Canning focus on modeling the dynamics of TFP. Their model allows for technology diffusion and for differentials in TFP in the long run across countries due to differences in geography and institutions.

The researchers estimate their model using data from the Penn World Table (which displays national accounts time series for many countries) and the International Labor Organization, among other sources. They do not find evidence for externalities at the aggregate level. As they observe, this "puts the emphasis in explaining cross-country differences in income levels on how and why TFP varies across countries." Their results indicate that there is systematic variation in steady-state TFP across countries related to their geography and institutions, but that convergence to steady-state levels via technological diffusion is slow.

Building organizational capital

In their NBER Working Paper (Number 8722), Andrew Atkeson and Patrick J. Kehoe report that nearly 9 percent of the output of the manufacturing sector is not accounted for as payments either to physical capital—structures and equipment—or to labor. They believe this shortfall indicates payments to unmeasured forms of capital or to monopoly rents.

They argue that a substantial share of the unaccounted-for payments goes to the specific knowledge accumulated within plants about the more effective use of their technologies of production. This "organizational capital" is determined by the vintage of the plant's technology and the staff's accumulated knowledge of how to use it.

The model used by Atkeson and Kehoe shows that "learning is both prolonged and substantial" and that "the aggregate of specific productivities across a cohort of plants grows substantially for 20 years." In their analysis of the data, they suggest that about 4 percent of manufacturing output—nearly half the missing piece—can plausibly be attributed to the generally unmeasured capital that "the turbulent and time-comsuming process of building up a stock of organization-specific knowledge" creates. □

We are interested in your feedback on this column. Please let us know what you have found most interesting and what essential reading we may have missed. Write to: Executive Editor, *Monthly Labor Review*, 2 Massachusetts Avenue NE, Washington, DC 20212, or e-mail mlr@bls.gov

New economy employment

World Employment Report 2001: Life at Work in the Information Economy. Geneva, International Labour Office. Available from ILO Publications Center, P.O. Box 753, Waldorf, MD, 2001. 371 pp. $34.95.

The bulk of the current *World Employment Report* is devoted to the effects of information and communication technologies (ICT) and their institutional setting upon employment, working conditions, educational and training requirements, and the opportunities ICT appear to offer for business enterprise and poverty amelioration in developing countries.

Introductorily, however, the *Report* highlights the persistent problem of worldwide unemployment and underemployment, a problem that afflicts one-third of the world's labor force of 3 billion men and women. The estimate includes the working poor, poverty being defined in terms of earnings of $1 per person per day. While prospects for an improvement in the employment situation were "bright" at the time the *Report* was written, this belief assumed continued strong economic growth in the United States "as engine for the rest of the world." The more recent slowdown in growth compels modification of that expectation.

Employment conditions have in fact deteriorated, at least in some areas. Employment in the formal sector in Latin America, for example, declined to 53.6 percent in 1998 (down from 57.2 percent in 1990), as has wage employment (to 69 percent from 72 percent). Segmentation of the workforce remains pervasive in the industrial countries, staffing systems being reorganized into a core of skilled (or primary) personnel, and "peripheral" workers, such as temporaries or subcontractors. This secondary workforce has few if any career prospects, few training opportunities, and little if any protection against unemployment or ill health.

ICT and the analysis of their employment effects lies at the core of the *Report*. The first question its writers ask is whether ICT defines, or helps to define, a "New Economy." Just what is this "New Economy?" Does it hold the promise of full employment that the writers postulate, provided there be a "good match" between technology, institutions, and policies? A detailed exposition of the concept is provided by the January 2001 *Economic Report of the President* (Washington, U.S. Government Printing Office). The entire *Economic Report*, including each of its chapters, is framed in terms of the New Economy. It is characterized, according to the Council of Economic Advisors who wrote the *Economic Report*, by "rapid productivity growth, rising incomes, low employment, and moderate inflation." These have resulted from "mutually reinforcing advances in technologies, business practices, and economic policies." Indeed, despite more recent downward revisions, the trend in productivity growth steeped between 1995 and 2000 to an average annual rate of 2.7 percent, which compares with a rate of 1.5 percent for the preceding 22 years. However, the more recent steep in the trend rate still runs below that for the earlier post-World War II period, say, for 1950–72, which was 3.1 percent—"golden years," as some remember the period—but a "new economy" was not then proclaimed.

The *Economic Report of the President* does not deal explicitly with the employment effects of ICT innovations. It does mention, however, that manufacturing firms have "embedded" information technology in their production processes, and it cites significant productivity advances—not all of them necessarily attributable to such technology—in the making of machine tools and steel. We might add that even as the index of manufacturing production rose 32 percent between 1995 and 2000, to its highest level for the post-World War II period, manufacturing employment remained virtually unchanged, also running well below its 1979 peak.

The *World Employment Report* does not deal extensively with embedded ICT. It is more centrally concerned with the opportunities generated by the knowledge and information processing services offered by ICT. It does mention, however, that the integration of world financial markets by ICT gave rise to "massive job destruction" in consequence of its role during the financial crisis in South-East and East Asia, Brazil, and the Russian Federation in the late 1990s. It may be objected that, when the employment effects of the financial crises of earlier periods are recalled, it is institutions, not technology, that have been lain at the root of resultant job destruction.

The theme that informs much of the *Report* is competitive pressures, and these pressures unquestionably affect the quality of work and of working conditions in ICT firms, to which the *Report* devotes some lengthy sections. Considerations of competitiveness often decide the balance between the upgrading of skills so that the worker may perform multitask work, and downgrading to single-task tending of an ICT device (for example, data entry). ICT also facilitates the externalizing of work that, it would seem, reinforces the polarity between multitask and single-task work just mentioned. Thus, subcontracting and outsourcing permit companies "to take advantage of lower terms and conditions prevailing in different sectors and countries, and to avoid commitments to develop fair and integrated employment systems negotiated for direct employees." Employers also engage temporary workers when they encounter demand fluctuations. Where healthcare insurance, pension rights, or childcare are linked to employment—rather than being citizen rights, as they are in some countries—standard employment contracts do not cover temporary workers, let alone subcontractors.

Heightened intensity has characterized much ICT work, and has led to "the application of just-in-time principles to all phases of such work" so that "unproductive time" is banished, "zero delay" established. Zero delay is enforced or reinforced by monitoring devices permitting constant surveillance, thus driving slack from the work processes by also enabling the number of operations per unit of time or of clients served to be counted, or certain behavioral characteristics (for example, tone of voice) to be scanned.

Trade unions appear, on balance, to lack the strength to help remedy such quality-of-work problems. The fiercely competitive environment in which ICT firms operate has "an unsettling rather than an empowering effect on most workers." A dominant concern is employment insecurity. Although historically unions have to an extent mitigated this problem, and have enhanced workers' sense of empowerment and productivity, membership has tended to decline, especially among younger workers. More generally, jobs in telecommunications have dropped worldwide—by 10 percent in the United States between 1983 and 1999, by more than one-half in Great Britain, and more than one-quarter in Germany. In many countries, privatization has spelled loss of civil service status, hence of job protection, for the employees involved. Such jobs were unusually unionized, and their privatization weakened the unions.

An example of the difficulties unions—or more generally, employee representation—face are call centers (10,000 of which exist in the European Union alone). They offer "a curious paradox." The "call center model is often scarcely distinguishable from the Taylorist organization of work, not of the 1970s, but of the 1930s," and should be fertile ground for organizing. Evidently, it is not. A key reason cited by spokespersons of one international union, and quoted in the *Report*, is that "new technologies used for surveillance and control reduce the amount of social interaction between workers in the workplace, and this undermines union activity, as well as workers' capacity to organize..."

Like previous work by ILO, the *Report* discusses the job-creating and job-destroying effects of ICT, albeit without coming to any definitive conclusion. Productivity in the manufacture of computers and other electronic equipment has resulted in significant job losses. ICT-related services, by contrast, have generated large numbers of jobs; and ICT employment in the United States represents about 6 percent of total employment. ICT services, however, are "tradable," and will be increasingly located in countries offering lower labor costs, provided connectivity exists and English is mastered (at least by management). Tradability also affects higher value ICT services. The salary of a systems designer in India, for example, runs to less than one-quarter of his American counterpart; of a project leader to little more than one-half; of a quality assurance specialist to about one-third. Tradability—which is, of course, also conditioned upon meeting the necessary educational requirements—is likely to vastly intensify worldwide competition in ICT services, and modify their expansion potential domestically.

—Horst Brand
Economist,
formerly with the Bureau
of Labor Statistics

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 43, and 47. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2002 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 2001 *Review* and reflect the experience through March 2001. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 49 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://www.bls.gov/cps/

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://www.bls.gov/ces/

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment.*

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

http://www.bls.gov/lpc/

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry,* a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensa-

tion and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–24)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 300,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but exclud-

ing irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 2000 benchmarks, was made with the release of May 2001 data, published in the July 2001 issue of the *Review.* Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors. Unadjusted data from April 2000 forward and seasonally adjusted data from January 1997 forward are subject to revision in future benchmarks.

In addition to the routine benchmark revisions and updated seasonal factors introduced with the release of the May 2000 data, all estimates for the wholesale trade division from April 1998 forward were revised to incorporate a new sample design. This represented the first major industry division to convert to a probability-based sample under a 4-year phase-in plan for the establishment survey sample redesign project. For additional information, see the the June 2000 issue of *Employment and Earnings.*

Revisions in State data (table 11) occurred with the publication of January 2000 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review).* When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 691–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691–6392 (table 10) or (202) 691–6559 (table 11).

Covered employment and wage data (ES–202)

Description of the series

EMPLOYMENT, WAGE, AND ESTABLISHMENT DATA in this section are derived from the quarterly tax reports submitted to State employment security agencies by private and State and local government employers subject to State unemployment insurance (UI) laws and from Federal, agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Each quarter, State agencies edit and process the data and send the information to the Bureau of Labor Statistics.

The Covered Employment and Wages data, also referred as ES-202 data, are the most complete enumeration of employment and wage information by industry at the national, State, metropolitan area, and county levels. They have broad economic significance in evaluating labor market trends and major industry developments.

Definitions

In general, ES-202 monthly employment data represent the number of **covered workers** who worked during, or received pay for, the pay period that included the 12th day of the month. **Covered private industry employment** includes most corporate officials, executives, supervisory personnel, professionals, clerical workers, wage earners, piece workers, and part-time workers. It excludes proprietors, the unincorporated self-employed, unpaid family members, and certain farm and domestic workers. Certain types of nonprofit employers, such as religious organizations, are given a choice of coverage or exclusion in a number of States. Workers in these organizations are, therefore, reported to a limited degree.

Persons on paid sick leave, paid holiday, paid vacation, and the like, are included. Persons on the payroll of more than one firm during the period are counted by each UI-subject employer if they meet the employment definition noted earlier. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

Federal employment data are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all Federal installa-

tions with employees covered by the Unemployment Compensation for Federal Employees (UCFE) program, except for certain national security agencies, which are omitted for security reasons. Employment for all Federal agencies for any given month is based on the number of persons who worked during or received pay for the pay period that included the 12th of the month.

An **establishment** is an economic unit, such as a farm, mine, factory, or store, that produces goods or provides services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity for which a single industrial classification may be applied. Occasionally, a single physical location encompasses two or more distinct and significant activities. Each activity should be reported as a separate establishment if separate records are kept and the various activities are classified under different four-digit SIC codes.

Most employers have only one establishment; thus, the establishment is the predominant reporting unit or statistical entity for reporting employment and wages data. Most employers, including State and local governments who operate more than one establishment in a State, file a Multiple Worksite Report each quarter, in addition to their quarterly UI report. The Multiple Worksite Report is used to collect separate employment and wage data for each of the employer's establishments, which are not detailed on the UI report. Some very small multi-establishment employers do not file a Multiple Worksite Report. When the total employment in an employer's secondary establishments (all establishments other than the largest) is 10 or fewer, the employer generally will file a consolidated report for all establishments. Also, some employers either cannot or will not report at the establishment level and thus aggregate establishments into one consolidated unit, or possibly several units, though not at the establishment level.

For the Federal Government, the reporting unit is the **installation**: a single location at which a department, agency, or other government body has civilian employees. Federal agencies follow slightly different criteria than do private employers when breaking down their reports by installation. They are permitted to combine as a single statewide unit: 1) all installations with 10 or fewer workers, and 2) all installations that have a combined total in the State of fewer than 50 workers. Also, when there are fewer than 25 workers in all secondary installations in a State, the secondary installations may be combined and reported with the major installation. Last, if a Federal agency has fewer than five employees in a State, the agency headquarters office (regional office, district office) serving each State may consolidate the employment and wages data for that State with the data reported to the State in which the headquarters is located. As a result of these reporting rules, the number of reporting units is always larger than the number of employers (or government agencies) but smaller than the number of actual establishments (or installations).

Data reported for the first quarter are tabulated into **size** categories ranging from worksites of very small size to those with 1,000 employees or more. The size category is determined by the establishment's March employment level. It is important to note that each establishment of a multi-establishment firm is tabulated separately into the appropriate size category. The total employment level of the reporting multi-establishment firm is not used in the size tabulation.

Covered employers in most States report total **wages** paid during the calendar quarter, regardless of when the services were performed. A few State laws, however, specify that wages be reported for, or based on the period during which services are performed rather than the period during which compensation is paid. Under most State laws or regulations, wages include bonuses, stock options, the cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Covered employer contributions for old-age, survivors, and disability insurance (OASDI), health insurance, unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported even though they are deducted from the worker's gross pay.

Wages of covered Federal workers represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, severance pay, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry.

Average annual wages per employee for any given industry are computed by dividing total annual wages by annual average employment. A further division by 52 yields average weekly wages per employee. Annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer at a time.

Average weekly or annual pay is affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying and low-paying occupations. When average pay levels between States and industries are compared, these factors should be taken into consideration. For example, industries characterized by high proportions of part-time workers will show average wage levels appreciably less than the weekly pay levels of regular full-time employees in these industries. The opposite effect characterizes industries with low proportions of part-time workers, or industries that typically schedule heavy weekend and overtime work. Average wage data also may be influenced by work stoppages, labor turnover rates, retroactive payments, seasonal factors, bonus payments, and so on.

Notes on the data

To insure the highest possible quality of data, State employment security agencies verify with employers and update, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle. Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter. For these reasons, some data, especially at more detailed geographic levels, may not be strictly comparable with earlier years.

The 1999 county data used to calculate the 1999–2000 changes were adjusted for changes in industry and county classification to make them comparable to data for 2000. As a result, the adjusted 1999 data differ to some extent from the data available on the Internet at:

http://www.bls.gov/cew/home.htm.

County definitions are assigned according to Federal Information Processing Standards Publications as issued by the National Institute of Standards and Technology. Areas shown as counties include those designated as independent cities in some jurisdictions and, in Alaska, those areas designated by the Census Bureau where counties have not been created. County data also are presented for the New England States for comparative purposes, even though townships are the more common designation used in New England (and New Jersey).

For additional information on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691–6567.

Compensation and Wage Data

(Tables 1–3; 25–31)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://www.bls.gov/ect/

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 691–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of

defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends on the Internet: **http://www.bls.gov/ebs/**

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 27.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 691–6282, or the Internet:

http:/www.bls.gov/cba/

Price Data

(Tables 2; 32–42)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 33. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 691–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations

per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 691–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods and services traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification, the three-digit level for the Standard Industrial Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by coun-try or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. The trade weights currently used to compute both indexes relate to 2000.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 691–7155.

Productivity Data

(Tables 2; 43–46)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business ser-vices.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 43–46 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. In addition to labor productivity, the industry data also include annual measures of compensation and unit labor costs for three-digit industries and measures of multifactor productivity for three-digit manufacturing industries and railroad transportation. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series consist of the hours of all employees (production workers and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

Multifactor productivity is derived by dividing an index of industry output by an index of the combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** used represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Bureau of the Census,with additional data supplied by other government agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some trade and services industries, indexes of output per hour of all persons (including self-employed) are constructed. For some transportation industries, only indexes of output per employee are prepared.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691–5618.

International Comparisons

(Tables 47–49)

Labor force and unemployment

Description of the series

Tables 47 and 48 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries.

The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3-20.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. An exception to this rule is that the Canadian statistics for 1976 onward are adjusted to cover ages 16 and older, whereas the age at which compulsory schooling ends remains at 15. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994, 1997, 1998, 1999, 2000), Canada (1976) France (1992), Germany (1991), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly conparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. See the Notes section on Employment and Unemployment Data of this *Review*.

BLS recently introduced a new adjusted series for Canada. Beginning with the data for 1976, Canadian data are adjusted to more closely approximate U.S. concepts. Adjustments are made to the unemployed and labor force to exclude: (1) 15-year-olds; (2) passive jobseekers (persons only reading newspaper ads as their method of job search); (3) persons waiting to start a new job who did not seek work in the past 4 weeks; and (4) persons unavailable for work due to personal or family responsibilities. An adjustment is made to include full-tine students looking for full-time work. The impact of the adjustments was to lower the annual average unemployment rate by 0.1–0.4 percentage point in the 1980s and 0.4–1.0 percentage point in the 1990s.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.5 percentage point in 1995.

For Germany, the data for 1991 onward refer to unified Germany. Data prior to 1991 relate to the former West Germany. The impact of including the former East Germany was to increase the unemployment rate from 4.3 to 5.6 percent in 1991.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact

was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. In 1998, the adjusted unemployment rate had risen from 6.5 to 8.4 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Manufacturing productivity and labor costs

Description of the series

Table 49 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The 1977–97 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1997. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 43 and 45 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–97; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For Canada, France, and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Occupational Injury and Illness Data

(Tables 50–51)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and

Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691–6180, or access the Internet at:

http://www.bls.gov/iip/

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of

Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691–6175, or the Internet at: **http://www.bls.gov/iip/**

Bureau of Labor Statistics Internet

The Bureau of Labor Statistics World Wide Web site on the Internet contains a range of data on consumer and producer prices, employment and unemployment, occupational compensation, employee benefits, workplace injuries and illnesses, and productivity. The homepage can be accessed using any Web browser:

http://www.bls.gov

Also, some data can be accessed through anonymous FTP or Gopher at

stats.bls.gov

1. Labor market indicators

Selected indicators	2000	2001	1999	2000				2001			
			IV	I	II	III	IV	I	II	III	IV
Employment data											
Employment status of the civilian noninstitutionalized population (household survey):[1]											
Labor force participation rate	67.2	66.9	67.1	67.3	67.3	67.0	67.1	67.2	66.9	66.8	66.9
Employment-population ratio	64.5	63.8	64.3	64.6	64.6	64.3	64.4	64.4	63.9	63.6	63.1
Unemployment rate	4.0	4.8	4.1	4.0	4.0	4.1	4.0	4.2	4.5	4.8	5.6
Men	3.9	4.8	4.0	3.9	3.9	3.9	4.0	4.2	4.6	4.9	5.7
16 to 24 years	9.7	11.4	10.3	9.7	9.7	9.8	9.6	10.6	11.2	11.5	12.7
25 years and over	2.8	3.6	2.9	2.8	2.8	2.8	2.9	3.1	3.4	3.7	4.4
Women	4.1	4.7	4.2	4.2	4.1	4.2	4.0	4.1	4.3	4.8	5.5
16 to 24 years	8.9	9.7	9.4	9.5	9.0	8.5	8.4	8.7	9.2	10.0	10.6
25 years and over	3.2	3.7	3.1	3.1	3.2	3.3	3.0	3.3	3.4	3.7	4.4
Employment, nonfarm (payroll data), in thousands:[1]											
Total	131,759	132,212	129,783	130,984	131,854	131,927	132,264	132,559	132,483	132,358	131,502
Private sector	111,079	111,339	109,507	110,456	110,917	111,293	111,669	111,886	111,702	111,385	110,480
Goods-producing	25,709	25,121	25,524	25,704	25,711	25,732	25,704	25,621	25,310	24,991	14,590
Manufacturing	18,469	17,698	18,482	18,504	18,510	18,487	18,378	18,188	17,882	17,556	17,174
Service-producing	106,050	107,090	104,259	105,280	106,143	106,195	106,560	106,938	107,173	107,367	106,912
Average hours:											
Private sector	34.5	34.2	34.5	34.5	34.5	34.4	34.3	34.3	34.2	34.1	34.1
Manufacturing	41.6	40.7	41.7	41.8	41.8	41.5	41.1	41.0	40.8	40.7	40.5
Overtime	4.6	3.9	4.7	4.7	4.7	4.5	4.3	4.1	3.9	4.0	3.8
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	4.1	4.1	.9	1.3	1.0	1.0	.7	1.3	.9	1.2	.8
Private industry workers	4.4	4.2	.9	1.5	1.2	.9	.7	1.4	1.0	.9	.8
Goods-producing[3]	4.4	3.8	1.0	1.6	1.2	.9	.6	1.3	.9	.7	.8
Service-producing[3]	4.4	4.3	.8	1.4	1.2	1.0	.7	1.4	1.0	1.0	.8
State and local government workers	3.0	4.2	1.0	.6	.3	1.3	.7	.9	.6	2.1	.6
Workers by bargaining status (private industry):											
Union	4.0	4.2	.7	1.3	1.0	1.2	.5	.7	1.1	1.0	1.4
Nonunion	4.4	4.1	1.0	1.5	1.2	1.0	.7	1.5	1.0	.9	.7

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	2000	2001	1999	2000				2001			
			IV	I	II	III	IV	I	II	III	IV
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	4.1	4.1	0.9	1.3	1.0	1.0	0.7	1.3	0.9	1.2	0.8
Private nonfarm	4.4	4.2	.9	1.5	1.2	.9	.7	1.4	1.0	.9	.8
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.8	3.7	.8	1.1	1.0	1.1	.6	1.1	.9	1.0	.7
Private nonfarm	3.9	3.8	.9	1.2	1.0	1.0	.6	1.2	1.0	.8	.8
Price data[1]											
Consumer Price Index (All Urban Consumers): All items	1.6	3.4	–.2	1.7	.7	.8	.2	1.3	1.0	.2	–.9
Producer Price Index:											
Finished goods	3.5	–1.8	.1	1.5	1.8	.6	.4	.9	.8	–.3	–3.2
Finished consumer goods	4.3	–2.4	–.2	1.9	1.3	.8	.1	1.2	1.0	–.3	–4.3
Capital equipment	1.2	1.0	1.2	.1	.1	–7.2	1.1	–.1	–7.1	–.1	.1
Intermediate materials, supplies, and components	4.0	–.2	8.0	1.8	1.4	1.0	–.3	.2	.6	–1.0	–3.6
Crude materials	31.1	–8.8	–3.5	9.0	–6.0	2.1	9.4	–3.5	–6.6	–12.0	–12.2
Productivity data[3]											
Output per hour of all persons:											
Business sector	3.4	1.8	7.4	–.1	7.7	1.2	3.0	–.2	2.2	.7	3.4
Nonfarm business sector	3.3	1.8	7.8	.0	6.7	1.6	2.3	–.1	2.1	1.1	3.5
Nonfinancial corporations[4]	3.1	–	3.5	2.8	5.6	2.6	.7	.5	3.3	.9	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly average					Four quarters ending				
	2000	2001				2000	2001			
	IV	I	II	III	IV	IV	I	II	III	IV
Average hourly compensation:[1]										
All persons, business sector	9.5	5.1	5.2	3.3	2.3	7.9	7.6	6.6	5.8	4.0
All persons, nonfarm business sector	8.9	4.9	4.7	3.7	2.3	7.8	7.3	6.5	5.5	3.9
Employment Cost Index—compensation:										
Civilian nonfarm[2]	.7	1.3	.9	1.2	.8	4.1	4.1	3.9	4.1	4.1
Private nonfarm	.7	1.4	1.0	.9	.8	4.4	4.2	4.0	4.0	4.2
Union	.5	.7	1.1	1.0	1.4	4.0	3.4	3.5	3.4	4.2
Nonunion	.7	1.5	1.0	.9	.7	4.4	4.3	4.2	4.1	4.1
State and local governments	.7	.9	.6	2.1	.6	3.0	3.3	3.6	4.4	4.2
Employment Cost Index—wages and salaries:										
Civilian nonfarm[2]	.6	1.1	.9	1.0	.7	3.8	3.8	3.7	3.6	3.7
Private nonfarm	.6	1.2	1.0	.8	.8	3.9	3.8	3.8	3.6	3.8
Union	.9	.6	1.1	1.0	1.6	3.4	3.6	3.8	3.6	4.4
Nonunion	.6	1.2	.9	.8	.7	4.0	3.9	3.7	3.6	3.6
State and local governments	.7	.7	.5	1.9	.5	3.3	3.5	3.7	3.9	3.6

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Jan.
TOTAL															
Civilian noninstitutional population[1]	209,699	211,864	210,889	211,026	211,171	211,348	211,525	211,725	211,921	212,135	212,357	212,581	212,767	212,927	213,089
Civilian labor force	140,863	141,815	141,757	141,622	141,869	141,734	141,445	141,468	141,651	141,380	142,068	142,280	142,279	141,390	141,390
Participation rate	67.2	66.9	67.2	67.1	67.2	67.1	66.9	66.8	66.8	66.6	66.9	66.9	66.9	66.8	66.4
Employed	135,208	135,073	135,870	135,734	135,808	135,424	135,235	135,003	135,106	134,408	135,004	134,615	134,253	134,055	133,468
Employment-population ratio[2]	64.5	63.8	64.4	64.3	64.3	64.1	63.9	63.8	63.8	63.4	63.6	63.3	63.1	63.0	62.6
Unemployed	5,665	6,742	5,887	5,888	6,061	6,310	6,210	6,465	6,545	6,972	7,064	7,665	8,026	8,259	7,922
Unemployment rate	4.0	4.8	4.2	4.2	4.3	4.5	4.4	4.6	4.64.6	4.9	5.0	5.4	5.6	5.8	5.6
Not in the labor force	68,836	70,050	68,934	69,275	69,304	69,592	70,254	70,370	70,147	70,785	70,167	70,279	70,523	70,523	
Men, 20 years and over															
Civilian noninstitutional population[1]	92,580	93,659	93,184	93,227	93,285	93,410	93,541	93,616	93,708	93,810	93,917	94,015	94,077	94,161	94,228
Civilian labor force	70,930	71,590	71,374	71,289	71,300	71,541	71,468	71,429	71,500	71,523	71,805	71,940	71,935	71,988	71,534
Participation rate	76.6	76.4	76.6	76.5	76.4	76.6	76.3	76.3	76.3	76.2	76.5	76.5	76.5	76.5	75.9
Employed	68,580	68,587	68,825	68,766	68,619	68,720	68,698	68,535	68,610	68,388	68,696	68,486	68,204	68,276	67,818
Employment-population ratio[2]	74.1	73.2	73.9	73.8	73.6	73.6	73.4	73.2	73.2	72.9	83.1	72.8	72.5	72.5	72.0
Agriculture	2,252	2,102	2,132	2,157	2,150	2,105	2,168	2,057	2,035	2,129	2,138	2,132	2,082	2,141	2,207
Nonagricultural industries	66,328	66,485	66,693	66,609	66,469	66,615	66,530	66,478	66,575	66,259	66,558	66,354	66,122	66,135	65,611
Unemployed	2,350	3,003	2,549	2,523	2,681	2,821	2,770	2,894	2,890	3,135	3,109	3,454	3,731	3,712	3,716
Unemployment rate	3.3	4.2	3.6	3.5	3.8	3.9	3.9	4.1	4.0	4.4	4.3	4.8	5.2	5.2	5.2
Women, 20 years and over															
Civilian noninstitutional population[1]	101,078	102,060	101,643	101,686	101,779	101,870	101,938	102,023	102,067	102,165	102,277	102,371	102,438	102,492	102,550
Civilian labor force	61,565	62,148	62,071	62,130	62,331	61,102	62,068	61,961	62,103	62,142	62,222	62,269	62,321	62,481	62,056
Participation rate	60.9	60.9	61.1	61.1	61.2	61.0	60.9	60.7	60.8	60.8	60.8	60.8	60.8	61.0	60.5
Employed	59,352	59,596	59,869	59,869	60,089	59,758	59,716	59,555	59,640	59,526	59,463	59,302	59,288	59,205	59,102
Employment-population ratio[2]	58.7	58.4	58.9	58.9	59.0	58.7	58.6	58.4	58.4	58.3	58.1	57.9	57.9	57.8	57.6
Agriculture	818	82	835	824	811	827	816	772	784	781	823	842	852	859	824
Nonagricultural industries	58,535	58,779	59,034	59,045	59,278	58,931	58,900	58,783	58,856	58,745	58,640	58,460	58,436	58,346	58,277
Unemployed	2,212	2,551	2,202	2,261	2,242	2,344	2,352	2,406	2,463	2,616	2,759	2,967	3,303	3,276	2,954
Unemployment rate	3.6	4.1	3.5	3.6	3.6	3.8	3.8	3.9	4.0	4.2	4.4	3.8	4.9	5.2	4.8
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,042	16,146	16,063	16,113	16,108	16,068	16,046	16,086	16,145	16,161	16,163	16,195	16,252	16,275	16,310
Civilian labor force	8,369	8,077	8,312	8,203	8,238	8,091	7,909	8,078	8,048	7,715	8,041	8,071	8,023	7,845	7,800
Participation rate	52.2	50.0	51.7	50.9	51.1	50.4	49.3	50.2	49.8	47.7	49.7	49.8	49.4	48.2	47.8
Employed	7,276	6,889	7,176	7,099	7,100	6,946	6,821	6,913	6,856	6,494	6,845	6,827	6,761	6,574	6,548
Employment-population ratio[2]	45.4	42.7	44.7	44.1	44.1	43.2	42.5	43.0	42.5	40.2	42.3	42.2	41.6	40.4	40.1
Agriculture	235	225	202	152	202	235	209	215	236	216	220	229	220	246	241
Nonagricultural industries	7,041	6,664	6,974	6,947	6,898	6,711	6,612	6,698	6,620	6,278	6,625	6,598	6,541	6,328	6,307
Unemployed	1,093	1,187	1,136	1,104	1,138	1,145	1,088	1,165	1,192	1,221	1,106	1,244	1,262	1,271	1,252
Unemployment rate	13.1	14.7	13.7	13.5	13.8	13.2	13.8	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1
White															
Civilian noninstitutional population[1]	174,428	175,888	175,246	175,362	175,416	175,533	175,653	175,789	175,924	176,069	176,220	176,372	176,500	176,607	176,713
Civilian labor force	117,574	118,144	118,097	118,143	118,194	118,014	117,714	117,854	117,986	117,813	118,274	118,506	118,566	118,403	117,759
Participation rate	67.4	67.2	67.4	67.4	67.4	67.3	67.0	67.0	67.1	66.9	67.1	67.2	67.2	67.0	66.6
Employed	113,475	113,220	114,015	113,902	113,853	113,434	113,185	113,037	113,237	112,703	113,147	112,878	112,652	112,388	111,876
Employment-population ratio[2]	65.1	64.4	65.0	64.9	64.9	64.6	64.4	64.4	64.3	64.0	64.2	64.0	63.8	63.6	63.3
Unemployed	4,099	4,923	4,240	4,364	4,384	4,640	4,541	4,728	4,810	5,073	5,127	5,628	5,914	6,015	5,883
Unemployment rate	3.5	4.2	3.6	3.7	3.7	3.9	3.9	4.0	4.1	4.3	4.3	4.7	5.0	5.1	5.0
Black															
Civilian noninstitutional population[1]	25,218	25,559	25,382	25,412	25,441	25,472	25,501	25,533	25,565	25,604	25,644	25,686	25,720	25,752	25,785
Civilian labor force	16,603	16,719	16,754	16,660	16,750	16,678	16,644	16,739	16,685	16,720	16,827	16,748	16,687	16,833	16,769
Participation rate	65.8	65.4	66.0	65.6	65.8	65.5	65.3	65.6	65.3	65.3	65.6	65.2	64.9	65.4	65.0
Employed	15,334	15,270	15,387	15,407	15,341	15,304	15,311	15,330	15,337	15,210	15,339	15,144	15,040	15,122	15,119
Employment-population ratio[2]	60.8	59.7	60.6	60.6	60.3	60.1	60.0	60.0	60.0	59.4	59.8	59.0	58.5	58.7	58.6
Unemployed	1,269	1,450	1,367	1,253	1,409	1,374	1,333	1,409	1,348	1,510	1,488	1,604	1,647	1,711	1,650
Unemployment rate	7.6	8.7	8.2	7.5	8.4	8.2	8.0	8.4	8.1	9.0	8.8	9.6	9.9	10.2	9.8

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Hispanic origin															
Civilian noninstitutional population[1]	22,393	23,122	22,769	22,830	22,889	22,957	23,021	23,090	23,157	23,222	23,288	23,351	23,417	23,478	23,542
Civilian labor force	15,368	15,751	15,609	15,652	15,739	15,730	15,656	15,602	15,753	15,788	15,811	15,956	15,932	16,013	15,988
Participation rate	68.6	68.1	68.6	68.6	68.8	68.5	68.0	67.6	68.0	68.0	67.9	68.3	68.0	68.2	67.9
Employed	14,492	14,714	14,682	14,682	14,760	14,738	14,684	14,574	14,776	14,771	14,785	14,824	14,751	14,753	14,700
Employment-population ratio[2]	64.7	63.6	65.5	64.3	64.5	64.2	63.8	63.1	63.8	63.6	63.5	63.5	63.0	62.8	62.4
Unemployed	876	1,037	927	970	979	992	972	1,028	977	1,017	1,026	1,132	1,181	1,260	1,288
Unemployment rate	5.7	6.6	5.9	6.2	6.2	6.3	6.2	6.6	6.2	6.4	6.5	7.1	7.4	7.9	8.1

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Characteristic															
Employed, 16 years and over	135,208	135,073	135,870	135,734	135,808	135,424	135,235	135,003	145,106	134,408	135,004	134,615	134,253	134,055	133,468
Men	72,293	72,080	72,492	72,348	72,271	72,272	72,131	72,012	72,093	71,705	72,177	71,871	71,570	71,577	71,114
Women	62,915	62,992	63,378	63,386	63,537	63,152	63,104	62,991	63,013	62,703	62,827	62,744	62,683	62,478	62,354
Married men, spouse present	43,368	43,243	43,304	43,372	43,385	43,459	43,633	43,357	43,264	43,143	43,099	42,983	42,861	42,772	42,823
Married women, spouse present	33,708	33,613	33,932	33,959	34,007	33,699	33,692	33,466	33,571	33,685	33,604	33,227	33,330	33,209	33,174
Women who maintain families	8,387	8,364	8,391	8,380	8,144	2,179	8,335	2,513	1,558	8,328	8,274	8,256	8,331	8,458	8,396
Class of worker															
Agriculture:															
Wage and salary workers	2,034	1,884	1,971	1,843	1,909	1,899	1,957	1,803	1,798	1,852	1,882	1,898	1,865	1,879	1,917
Self-employed workers	1,233	1,233	1,186	1,281	1,224	1,220	1,208	1,193	1152	1,239	1,278	1,290	1,276	1,313	1,311
Unpaid family workers	38	27	27	29	34	44	34	32	23	29	24	26	12	27	49
Nonagricultural industries:															
Wage and salary workers	123,128	123,235	124,128	123,916	123,767	123,406	123,530	123,069	123,204	122,685	123,186	122,710	122,507	122,196	122,145
Government	19,053	19,127	18,953	19,073	19,089	18,928	19,068	18,934	18,999	19,150	19,290	19,223	19,172	19,183	19,047
Private industries	104,076	104,108	105,175	104,843	104,678	104,478	10,442	104,135	104,205	103,535	103,896	103,487	103,335	103,013	103,098
Private households	890	803	862	833	858	809	795	760	790	814	804	867	790	736	725
Other	103,186	103,305	104,313	104,010	103,820	103,669	103,667	103,375	103,415	102,721	103,092	102,620	102,545	102,277	102,373
Self-employed workers	8,674	8,594	8,661	8,608	8,749	8,597	8,540	8,720	8,568	8,503	8,556	8,505	8,507	8,524	8,213
Unpaid family workers	101	101	112	130	128	99	111	102	98	111	101	95	77	92	97
Persons at work part time[1]															
All industries:															
Part time for economic reasons	3,190	3,672	3,288	3,277	3,221	3,277	3,388	3,649	3,571	3,389	4,148	4,329	4,206	4,267	3,973
Slack work or business conditions	1,927	2,355	2,029	2,049	1,965	2,188	2,205	2,276	2,174	2,115	2,796	2,983	2,796	2,809	2,549
Could only find part-time work	944	1,007	934	925	916	895	921	1,008	1,011	952	1,064	1,108	1,121	1,161	1,089
Part time for noneconomic reasons	18,722	18,707	18,696	18,974	18,711	18,698	18,634	18,482	18,812	19,011	18,798	18,644	18,587	18,540	18,201
Nonagricultural industries:															
Part time for economic reasons	3,045	3,529	3,172	3,137	3,064	3,120	3,231	3,556	3,425	32,346	4,015	4,222	4,017	4,119	3,781
Slack work or business conditions	1,835	2,266	1,955	1,970	1,869	2,011	2,101	2,215	2,111	2,025	2,704	2,898	2,679	2,717	2,448
Could only find part-time work	924	989	935	904	891	883	899	990	993	927	1,045	1,082	1,096	1,138	1,068
Part time for noneconomic reasons	18,165	18,177	18,139	18,560	18,162	18,166	18,097	18,066	18,283	18,485	18,232	18,065	18,007	17,960	17,717

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan
Characteristic															
Total, 16 years and over	4.0	4.8	4.2	4.2	4.3	4.5	4.4	4.6	4.6	4.9	5.0	5.4	5.6	5.8	5.6
Both sexes, 16 to 19 years	13.1	14.7	13.7	13.5	13.8	14.2	13.6	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1
Men, 20 years and over	3.3	4.2	3.6	3.5	3.8	3.9	3.9	4.1	4.0	4.4	4.3	4.8	5.2	5.2	5.2
Women, 20 years and over	3.6	4.1	3.5	3.6	3.6	3.8	3.8	3.9	4.0	4.2	4.4	4.8	4.9	52.0	4.8
White, total	3.5	4.2	3.6	3.7	3.7	3.9	3.9	4.0	4.1	4.3	4.3	4.7	5.0	5.1	5.0
Both sexes, 16 to 19 years	11.4	12.7	11.7	11.2	11.7	11.9	12.0	12.7	13.2	13.8	12.7	23.1	13.5	13.7	14.2
Men, 16 to 19 years	12.3	13.8	13.1	12.7	12.3	12.9	13.3	14.3	13.8	15.1	13.6	14.7	15.8	14.6	13.7
Women, 16 to 19 years	10.4	11.4	10.2	9.6	11.0	10.9	10.7	11.0	12.6	12.4	11.7	11.5	11.1	12.8	14.6
Men, 20 years and over	2.8	3.7	3.1	3.1	3.3	3.4	3.4	3.6	3.5	3.8	3.8	4.4	4.7	4.6	4.7
Women, 20 years and over	3.1	3.6	3.0	3.3	3.1	3.4	3.4	3.4	3.5	3.6	3.8	4.1	4.2	4.5	4.2
Black, total	7.6	8.7	8.2	7.5	8.4	8.2	8.0	8.4	8.1	9.0	8.8	9.6	9.9	10.2	9.8
Both sexes, 16 to 19 years	24.7	29.0	27.5	28.1	28.3	30.5	25.7	28.0	26.6	30.1	28.5	30.2	32.1	33.4	30.7
Men, 16 to 19 years	26.4	30.5	27.3	31.1	28.7	33.5	30/0	6.0	28.1	31.4	430.8	31.2	31.6	32.0	32.1
Women, 16 to 19 years	23.0	27.5	27.6	25.1	28.0	27.7	21.5	25.7	25.2	28.7	26.1	29.1	32.6	34.8	29.0
Men, 20 years and over	7.0	8.0	7.0	6.7	8.2	8.1	7.6	7.8	7.9	8.8	7.8	8.2	8.7	9.1	8.9
Women, 20 years and over	6.3	7.0	6.9	5.9	6.3	5.9	6.4	6.7	6.2	7.0	7.7	8.5	8.4	8.7	8.4
Hispanic origin, total	5.7	6.6	5.9	6.2	6.2	6.3	6.2	6.6	6.2	6.4	6.5	7.1	7.4	7.9	8.1
Married men, spouse present	2.0	2.7	2.3	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.8	3.1	3.3	3.4	3.5
Married women, spouse present	2.7	3.1	2.6	2.6	2.7	2.8	2.9	3.0	2.9	3.1	3.3	3.6	3.6	3.7	3.4
Women who maintain families	5.9	6.6	6.4	6.0	6.1	6.3	6.2	6.3	6.3	6.8	7.1	6.8	8.0	8.0	7.9
Full-time workers	3.9	4.7	4.0	4.0	4.1	4.3	4.3	4.5	4.5	4.8	5.0	5.4	5.6	5.8	5.7
Part-time workers	4.8	5.1	4.9	4.8	4.9	5.3	4.8	5.2	5.1	5.4	4.6	5.5	5.6	5.6	5.2
Industry															
Nonagricultural wage and salary workers	4.1	5.1	4.2	4.4	4.5	4.6	4.6	4.8	4.8	5.2	5.2	5.8	6.0	6.2	5.9
Mining	3.9	4.7	2.2	4.5	4.0	4.8	4.9	5.9	3.9	4.7	5.0	5.8	5.3	6.1	5.9
Construction	6.4	7.3	6.7	6.8	6.4	6.9	6.7	6.9	7.1	7.6	7.8	8.3	8.9	8.9	9.4
Manufacturing	3.6	5.2	4.1	4.5	4.8	4.6	4.8	5.0	5.2	5.7	5.6	6.0	6.4	6.8	6.6
Durable goods	3.4	5.3	4.0	4.1	4.7	4.4	4.8	5.0	5.0	5.8	5.8	6.5	6.9	7.2	7.0
Nondurable goods	4.0	5.1	4.4	4.9	4.9	4.9	4.8	4.9	5.5	5.4	5.4	5.3	5.5	6.1	5.9
Transportation and public utilities	3.1	4.1	2.9	3.0	3.2	4.0	3.6	4.1	3.4	3.6	3.9	6.0	6.1	6.1	6.2
Wholesale and retail trade	5.0	5.6	4.9	5.1	5.3	5.2	5.2	5.4	5.3	5.6	5.9	6.1	6.4	7.1	6.3
Finance, insurance, and real estate	2.3	2.8	2.3	2.4	2.5	2.6	2.4	2.6	3.1	2.7	2.8	2.8	3.6	3.0	2.2
Services	3.8	4.6	3.9	4.1	4.1	4.1	4.2	4.4	4.4	4.9	4.8	5.5	5.4	5.5	5.4
Government workers	2.1	2.2	2.2	1.6	2.1	2.2	2.0	2.1	2.1	2.1	2.2	2.3	2.4	2.4	2.3
Agricultural wage and salary workers	7.5	9.7	9.0	9.2	11.1	9.4	8.4	9.5	10.5	10.0	7.6	9.0	9.3	9.6	10.3
Educational attainment[1]															
Less than a high school diploma	6.4	7.3	6.7	7.4	6.8	6.7	6.7	6.9	6.8	7.3	7.7	7.8	8.1	8.8	8.1
High school graduates, no college	3.5	4.2	3.7	3.7	3.8	3.8	3.9	3.9	4.1	4.3	4.3	4.6	5.0	4.9	5.2
Some college, less than a bachelor's degree	2.7	3.3	2.9	2.7	2.7	2.9	3.0	3.1	3.1	3.3	3.5	3.9	4.2	4.3	4.2
College graduates	1.7	2.3	1.6	1.6	1.9	2.2	2.1	2.1	22.2	2.2	2.5	2.7	2.9	3.1	2.9

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Less than 5 weeks	2,543	2,833	2,631	2,749	2,698	2,822	2,714	2,809	2,647	2,955	2,807	3,084	3,090	3,024	2,978
5 to 14 weeks	1,803	2,163	1,940	1,737	1,967	1,976	2,021	2,098	2,170	2,152	2,366	2,522	2,573	2,724	2,586
15 weeks and over	1,309	1,746	1,357	1,466	1,510	1,507	1,503	1,571	1,630	1,798	1,907	2,042	2,317	2,410	2,546
15 to 26 weeks	665	949	709	778	814	781	862	843	948	980	1,084	1,136	1,207	1,295	1,418
27 weeks and over	644	787	648	688	696	726	641	728	682	818	823	906	1,110	1,115	1,127
Mean duration, in weeks	12.6	13.2	12.6	12.8	12.8	12.6	12.4	12.9	12.7	13.2	13.3	13.0	14.4	14.5	14.6
Median duration, in weeks	5.9	6.8	5.9	6.0	6.4	6.0	6.4	6.3	6.7	6.6	7.3	7.4	7.6	8.2	8.8

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Job losers[1]	2,492	3,428	2,762	2,856	2,995	3,020	3,132	3,249	3,294	3,438	3,595	4,297	4,501	4,492	4,354
On temporary layoff	842	1,044	1,002	950	988	1,023	1,055	990	1,020	1,071	1,114	1,288	1,157	1,107	1,124
Not on temporary layoff	1,650	2,379	1,760	1,906	2,007	1,997	2,077	2,259	2,274	2,367	2,481	3,009	3,344	3,385	3,231
Job leavers	775	832	813	815	803	776	818	807	791	877	819	880	848	908	879
Reentrants	1,957	2,029	1,921	1,900	1,908	1,991	1,827	1,921	1,948	2,162	2,102	2,113	2,197	2,361	2,191
New entrants	431	453	439	387	410	456	467	470	442	488	466	466	497	495	479
Percent of unemployed															
Job losers[1]	44.1	50.8	46.5	47.9	49.0	48.4	50.2	50.4	50.9	49.4	51.5	55.4	56.0	54.4	55.1
On temporary layoff	14.9	15.6	16.9	15.9	16.2	16.4	16.9	15.4	15.8	15.4	16.0	16.6	14.4	13.4	14.2
Not on temporary layoff	29.2	35.3	32.0	32.0	32.8	32.0	33.3	35.0	35.1	34.0	35.5	38.8	41.6	41.0	40.9
Job leavers	13.7	12.3	13.7	13.7	13.1	12.4	13.1	12.5	12.2	12.6	11.7	11.3	10.5	11.0	11.1
Reentrants	34.6	30.1	32.4	31.9	31.2	31.9	29.3	29.8	30.1	31.0	30.1	27.2	27.3	28.6	27.7
New entrants	7.6	6.7	7.4	6.5	6.7	7.3	7.5	7.3	6.8	7.0	6.7	6.0	6.2	6.0	6.1
Percent of civilian labor force															
Job losers[1]	1.8	2.4	1.9	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5	3.0	3.2	3.2	3.1
Job leavers	.6	.6	.6	.6	.6	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6
Reentrants	1.4	1.4	1.4	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.7	1.5
New entrants	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total, 16 years and over	4.0	4.8	4.2	4.2	4.3	4.5	4.4	4.6	4.6	4.9	5.0	5.4	5.6	5.8	5.6
16 to 24 years	9.3	10.6	9.5	9.5	9.9	10.3	10.0	10.4	10.2	11.3	10.8	11.5	11.7	11.9	11.9
16 to 19 years	13.1	14.7	13.7	13.5	13.8	14.2	13.8	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1
16 to 17 years	15.4	17.1	16.6	16.9	5.9	16.7	15.8	16.5	19.0	18.6	16.6	17.4	17.5	18.8	17.0
18 to 19 years	11.5	13.2	11.5	11.0	12.2	12.6	12.5	13.0	12.4	14.4	13.9	14.2	14.8	14.8	15.2
20 to 24 years	7.1	8.3	7.2	7.3	7.7	8.2	7.9	8.2	7.7	8.9	8.6	9.3	9.5	9.6	9.7
25 years and over	3.0	3,7	3.1	3.2	3.2	3.4	3.4	3.5	3.5	3.8	3.8	4.2	4.4	4.5	4.4
25 to 54 years	3.1	3.8	3.2	3.2	3.3	3.4	3.5	3.6	3.7	3.9	3.9	4.4	4.6	4.7	4.7
55 years and over	2.6	3.0	2.7	2.8	2.7	2.7	2.6	2.8	2.9	3.1	3.2	3.4	3.5	4.0	3.5
Men, 16 years and over	3.9	4.8	4.2	4.2	4.4	4.6	4.5	4.7	4.7	5.1	5.0	5.5	5.9	5.8	5.8
16 to 24 years	9.7	11.4	10.2	10.6	10.9	10.9	11.0	11.6	10.7	12.3	1.5	12.4	13.0	12.8	12.5
16 to 19 years	14.0	15.9	14.8	15.0	14.3	15.1	15.4	15.8	15.6	17.4	16.0	17.2	17.7	17.2	16.3
16 to 17 years	16.8	18.8	19.0	18.4	16.2	18.7	17.9	18.5	19.1	21.9	18.7	20.3	20.4	20.0	17.6
18 to 19 years	12.2	14.1	11.9	12.9	12.7	12.9	13.9	14.2	13.4	15.0	14.5	15.1	16.2	15.6	15.1
20 to 24 years	7.3	8.9	7.7	8.1	8.9	8.6	8.7	9.3	8.1	9.5	9.1	9.8	10.5	10.5	10.6
25 years and over	2.8	3.6	3.1	3.0	3.2	3.4	3.3	3.4	3.6	3.8	3.7	4.2	4.5	4.5	4.4
25 to 54 years	2.9	3.7	3.1	3.1	3.2	3.5	3.4	3.5	3.6	3.9	3.8	4.3	4.6	4.5	4,7
55 years and over	2.7	3.3	2.9	2.8	3.0	2.9	2.9	3.0	3.1	3.3	3.3	3.7	4.1	4.2	3.8
Women, 16 years and over	4.1	4.7	4.1	4.1	4.2	4.3	4.3	4.4	4.6	4.8	5.0	5.3	5.4	5.8	5.4
16 to 24 years	8.9	9.7	8.8	8.3	8.9	9.7	8.8	9.2	9.7	10.3	10.1	10.5	10.3	11.0	11.3
16 to 19 years	12.1	13.4	12.5	11.9	13.3	13.2	12.1	13.0	14.0	14.1	13.6	13.6	13.7	15.1	15.8
16 to 17 years	14.0	15.3	14.0	15.3	15.6	14.5	13.8	14.4	18.8	15.4	14.3	14.5	14.5	17.6	16.4
18 to 19 years	10.8	12.2	11.1	8.8	11.6	12.2	11.0	11.8	11.3	13.7	13.3	13.3	13.3	14.0	15.2
20 to 24 years	7.0	7.5	6.7	6.3	6.4	7.8	7.0	7.0	7.3	8.2	8.1	8.7	8.3	8.7	8.7
25 years and over	3.2	3.7	3.2	3.4	3.2	3.3	3.4	3.5	3.5	3.8	4.0	4.2	4.4	4.6	4.3
25 to 54 years	3.3	3.8	3.3	3.4	3.4	3.4	3.6	3.7	3.7	3.9	4.0	4.4	4.7	4.8	4.6
55 years and over	2.6	2.7	2.4	2.7	2.3	2.5	2.4	2.6	2.6	2.8	3.2	3.2	2.8	3.7	3.0

10. Unemployment rates by State, seasonally adjusted

State	Dec. 2000	Nov. 2001[P]	Dec. 2001[P]	State	Dec. 2000	Nov. 2001[P]	Dec. 2001[P]
Alabama	4.7	5.9	6.0	Missouri	4.3	5.0	4.9
Alaska	6.6	6.1	6.0	Montana	4.7	4.6	4.7
Arizona	3.8	5.6	5.8	Nebraska	2.9	3.3	3.4
Arkansas	4.6	5.4	5.5	Nevada	4.4	6.7	6.9
California	4.7	6.1	6.1	New Hampshire	2.8	4.0	3.9
Colorado	2.7	4.9	5.1	New Jersey	3.7	4.8	4.8
Connecticut	2.3	3.9	4.0	New Mexico	4.6	5.1	5.1
Delaware	4.0	3.3	3.4	New York	4.3	5.6	5.7
District of Columbia	6.3	6.8	6.4	North Carolina	4.2	6.5	6.5
Florida	3.8	5.6	6.0	North Dakota	2.9	2.9	3.1
Georgia	3.6	4.5	4.5	Ohio	3.9	4.7	4.8
Hawaii	4.2	5.7	5.6	Oklahoma	3.0	4.4	4.7
Idaho	4.8	5.3	5.5	Oregon	4.7	7.7	7.8
Illinois	4.8	5.9	6.0	Pennsylvania	4.3	5.0	5.1
Indiana	3.3	5.1	5.1	Rhode Island	4.2	4.9	6.0
Iowa	2.9	3.7	3.7	South Carolina	4.2	5.9	6.1
Kansas	4.0	4.5	4.4	South Dakota	2.6	3.6	4.0
Kentucky	4.6	6.1	6.2	Tennessee	4.1	4.8	5.0
Louisiana	6.0	6.5	6.7	Texas	3.9	5.6	5.7
Maine	3.4	4.3	4.3	Utah	3.5	5.2	5.9
Maryland	3.9	4.4	4.4	Vermont	3.0	4.2	4.3
Massachusetts	2.6	4.4	4.4	Virginia	2.2	4.5	4.5
Michigan	–	–	–	Washington	5.5	7.2	7.4
Minnesota	3.4	3.9	4.0	West Virginia	5.4	4.6	4.6
Mississippi	5.1	6.3	6.5	Wisconsin	3.9	4.9	4.9
				Wyoming	3.8	4.1	4.2

[P] = preliminary

Dash indicates data not available.

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Dec. 2000	Nov. 2001[P]	Dec. 2001[P]	State	Dec. 2000	Nov. 2001[P]	Dec. 2001[P]
Alabama	1,927.4	1,905.6	1,903.7	Missouri	2,743.0	2,707.1	2,695.2
Alaska	285.8	290.5	291.4	Montana	386.8	390.0	390.3
Arizona	2,270.0	2,252.6	2,247.1	Nebraska	908.8	911.4	908.8
Arkansas	1,156.2	1,149.9	1,147.5	Nevada	1,045.2	1,046.8	1,049.6
California	14,682.8	14,644.2	14,656.2	New Hampshire	629.4	624.3	624.6
Colorado	2,246.0	22.3.3	2,205.0	New Jersey	4,024.6	4,020.0	4,023.3
Connecticut	1,694.2	1,672.4	1,672.1	New Mexico	752.5	757.4	758.1
Delaware	420.9	418.4	418.5	New York	8,691.1	8,574.5	8,568.5
District of Columbia	657.7	649.3	649.6	North Carolina	3,933.5	3,882.6	3,881.6
Florida	7,158.4	7,187.6	7,166.3	North Dakota	328.5	330.9	331.0
Georgia	3,972.1	3,906.6	3,899.2	Ohio	5,606.6	5,539.6	5,534.5
Hawaii	557.4	546.0	545.5	Oklahoma	1,503.5	1,516.2	1,516.2
Idaho	566.2	569.3	568.9	Oregon	1617.8'	1,582.4	1,580.1
Illinois	6,039.5	5,969.4	5,958.0	Pennsylvania	5,709.8	5,666.5	5,663.1
Indiana	2,967.8	2,915.4	2,911.0	Rhode Island	480.3	477.6	477.9
Iowa	1,477.0	1,465.2	1,462.8	South Carolina	1,853.1	1,834.8	1,827.8
Kansas	1,347.4	1,360.6	1,363.1	South Dakota	378.0	377.8	376.3
Kentucky	1,827.2	1,819.0	1,818.5	Tennessee	2,722.2	2,706.3	2,706.9
Louisiana	1,941.8	1,921.6	1,936.9	Texas	9,526.9	9,449.6	9,437.0
Maine	608.1	608.3	608.1	Utah	1,087.1	1,075.6	1,073.7
Maryland	2,472.0	2,470.4	2,469.9	Vermont	301.5	297.7	297.4
Massachusetts	3,358.4	3,312.1	3,307.1	Virginia	3,550.8	3,504.9	3,501.9
Michigan	–	–	–	Washington	2,731.1	2,667.8	2,655.6
Minnesota	2,692.7	2,653.4	2,648.4	West Virginia	737.7	733.6	734.6
Mississippi	1,144.1	1,130.8	1,125.5	Wisconsin	2,834.3	2,816.0	2,817.5
				Wyoming	241.6	246.2	245.9

[P] = preliminary. Dash indicates data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[P]	Jan.[P]
TOTAL	131,739	132,212	132,428	132,595	132,654	132,489	132,530	132,431	132,449	132,395	132,230	131,782	131,427	131,321	131,195
PRIVATE SECTOR	111,079	111,339	111,799	111,915	111,943	111,742	111,760	111,603	111,517	111,390	111,249	110,784	110,421	110,260	110,132
GOODS-PRODUCING	25,709	25,121	25,633	25,627	25,602	25,421	25,324	25,186	25,122	24,963	24,888	24,746	24,577	24,453	24,278
Mining	543	563	550	555	557	560	564	565	567	569	569	569	567	564	562
Metal mining	41	36	39	39	38	37	37	35	34	35	35	35	34	33	31
Oil and gas extraction	311	337	325	328	331	335	339	340	341	342	342	340	339	336	337
Nonmetallic minerals, except fuels	114	113	111	113	113	113	112	112	113	112	112	113	113	113	112
Construction	6,698	5,861	6,826	6,880	6,929	6,852	6,881	6,864	6,867	6,861	6,871	6,852	6,851	6,850	6,787
General building contractors	1,528	1,554	1,538	1,555	1,552	1,548	1,556	1,551	1,554	1,557	1,562	1,560	1,561	1,559	1,550
Heavy construction, except building	901	629	921	930	938	915	923	925	935	932	932	933	942	944	928
Special trades contractors	4,269	4,378	4,367	4,395	4,439	4,389	4,402	4,388	4,378	4,372	4,377	4,359	4,348	4,348	4,309
Manufacturing	18,469	17,698	18,257	18,192	18,116	18,009	17,879	17,757	17,688	17,533	17,448	17,325	17,159	17,039	16,929
Production workers	12,628	11,922	12,394	12,323	12,254	12,166	12,066	11,956	11,900	11,782	11,706	11,626	11,500	11,405	11,325
Durable goods	11,138	10,638	11,031	10,997	10,941	10,870	10,778	10,692	10,624	10,523	10,460	10,363	10,240	10,158	10,053
Production workers	7,591	7,122	7,462	7,415	7,358	7,308	7,235	7,157	7,102	7,022	6,970	6,897	6,805	6,744	6,670
Lumber and wood products	832	795	806	799	799	800	797	798	797	793	794	789	784	780	781
Furniture and fixtures	558	527	552	549	548	543	540	532	531	519	513	505	499	499	498
Stone, clay, and glass products	579	571	579	578	578	577	574	572	569	568	567	566	562	559	554
Primary metal industries	698	651	681	679	671	667	660	654	648	643	638	633	619	613	601
Fabricated metal products	1,537	1,479	1,526	1,514	1,509	1,503	1,488	1,478	1,478	1,468	1,464	1,454	1,435	1,428	1,416
Industrial machinery and equipment	2,120	2,014	2,117	2,105	2,084	2,072	2,054	2,031	2,007	1,980	1,965	1,943	1,917	1,892	1,870
Computer and office equipment	361	355	369	370	369	367	366	357	353	348	344	342	339	335	327
Electronic and other electrical equipment	1,719	1,612	1,735	1,726	1,715	1,684	1,656	1,624	1,589	1,565	1,551	1,529	1,499	1,474	1,459
Electronic components and accessories	682	647	714	711	702	686	670	650	634	618	613	601	591	583	572
Transportation equipment	1,849	1,747	1,772	1,786	1,775	1,768	1,757	1,749	1,752	1,750	1,735	1,714	1,706	1,696	1,660
Motor vehicles and equipment	1,013	933	952	967	956	950	939	931	936	931	919	903	903	901	878
Aircraft and parts	465	463	462	464	465	464	465	465	466	465	465	463	456	452	440
Instruments and related products	852	859	870	871	871	866	865	865	865	858	851	849	843	839	836
Miscellaneous manufacturing industries	394	385	393	390	391	390	387	389	388	379	382	381	376	378	378
Nondurable goods	7,331	7,059	7,226	7,195	7,175	7,139	7,101	7,065	7,064	7,010	6,988	6,962	6,919	6,881	6,876
Production workers	5,038	4,800	4,932	4,908	4,896	4,858	4,831	4,799	4,798	4,760	4,736	4,729	4,695	4,661	4,655
Food and kindred products	1,684	1,685	1,684	1,686	1,687	1,687	1,684	1,685	1,680	1,674	1,682	1,689	1,691	1,682	1,685
Tobacco products	34	33	32	31	32	32	33	33	33	35	33	33	33	32	33
Textile mill products	528	473	505	496	494	489	480	472	471	465	459	454	446	442	440
Apparel and other textile products	633	565	599	595	590	581	579	567	571	554	551	542	533	531	535
Paper and allied products	657	635	651	645	642	641	639	635	632	628	629	628	627	624	624
Printing and publishing	1,547	1,492	1,534	1,529	1,524	1,512	1,502	1,495	1,489	1,483	1,473	1,465	1,452	1,444	1,435
Chemicals and allied products	1,038	1,033	1,039	1,039	1,039	1,036	1,033	1,033	1,039	1,035	1,031	1,027	1,024	1,021	1,018
Petroleum and coal products	127	127	127	127	126	128	127	128	128	127	128	128	127	127	128
Rubber and miscellaneous plastics products	1,011	954	987	979	973	967	959	953	957	947	941	935	927	920	919
Leather and leather products	71	64	68	68	68	66	65	64	64	62	61	60	59		
SERVICE-PRODUCING	106,050	107,091	106,795	106,968	107,052	107,068	107,206	107,245	107,327	107,432	107,342	107,036	106,850	106,868	106,917
Transportation and public utilities	7,019	7,070	7,106	7,123	7,127	7,119	7,130	7,118	7,108	7,082	7,070	7,016	6,952	6,915	6,897
Transportation	4,529	4,531	4,580	4,591	4,591	4,576	4,584	4,571	4,561	4,539	4,528	4,472	4,414	4,387	4,376
Railroad transportation	236	227	229	231	230	230	230	227	226	226	226	225	224	227	226
Local and interurban passenger transit	476	481	479	480	480	477	483	483	485	486	482	479	480	485	486
Trucking and warehousing	1,856	1,854	1,868	1,870	1,872	1,864	1,867	1,867	1,863	1,844	1,838	1,832	1,830	1,832	1,829
Water transportation	196	203	201	200	201	202	203	201	203	203	205	206	204	206	203
Transportation by air	1,281	1,288	1,312	1,318	1,316	1,313	1,315	1,310	1,304	1,303	1,300	1,264	1,221	1,189	1,187
Pipelines, except natural gas	14	14	14	14	13	14	14	14	14	14	14	14	14	14	14
Transportation services	471	464	477	478	479	476	472	469	466	463	463	452	441	434	431
Communications and public utilities	2,490	2,540	2,526	2,532	2,536	2,543	2,546	2,547	2,547	2,543	2,542	2,544	2,538	2,528	2,521
Communications	1,639	1,692	1,679	1,685	1,690	1,696	1,699	1,700	1,700	1,695	1,695	1,695	1,689	1,683	1,673
Electric, gas, and sanitary services	851	847	847	847	846	847	847	847	847	848	847	849	849	845	848
Wholesale trade	7,024	7,014	7,067	7,064	7,066	7,053	7,038	7,022	7,017	7,010	6,988	6,971	6,941	6,938	6,934
Retail trade	23,307	23,488	23,415	23,472	23,457	23,530	23,546	23,561	23,606	23,583	23,536	23,422	23,424	23,365	23,406
Building materials and garden supplies	1,016	1,010	1,007	1,007	1,006	999	1,006	1,014	1,008	1,014	1,013	1,012	1,010	1,013	1,021
General merchandise stores	2,837	2,792	2,789	2,807	2,797	2,804	2,821	2,818	2,810	2,800	2,793	2,784	2,778	2,755	2,720
Department stores	2,491	2,447	2,448	2,462	2,451	2,459	2,473	2,471	2,458	2,449	2,450	2,422	2,420	2,410	2,378

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[P]	Jan.[P]
Food stores	3,521	3,542	3,538	3,548	3,550	3,562	3,553	3,544	3,536	3,531	3,538	3,542	3,539	3,535	3,522
Automotive dealers and service stations	2,412	2,429	2,424	2,424	2,420	2,421	2,428	2,431	2,435	2,441	2,435	2,429	2,430	2,428	2,432
New and used car dealers	1,114	1,130	1,124	1,124	1,124	1,122	1,126	1,128	1,131	1,133	1,133	1,134	1,137	1,141	1,145
Apparel and accessory stores	1,193	1,219	1,221	1,227	1,228	1,226	1,231	1,227	1,219	1,224	1,224	1,208	1,203	1,192	1,222
Furniture and home furnishings stores	1,134	1,140	1,147	1,146	1,147	1,140	1,136	1,136	1,137	1,137	1,138	1,136	1,136	1,143	1,139
Eating and drinking places	8,114	8,215	8,157	8,171	8,158	8,213	8,216	8,241	8,310	8,280	8,242	8,187	8,198	8,209	8,211
Miscellaneous retail establishments	3,080	3,142	3,132	3,142	3,151	3,165	3,155	3,150	3,151	3,156	3,153	3,144	3,130	3,100	3,139
Finance, insurance, and real estate	7,560	7,623	7,594	7,609	7,618	7,626	7,644	7,631	7,618	7,623	7,633	7,634	7,638	7,632	7,636
Finance	3,710	3,759	3,738	3,748	3,755	3,761	3,770	3,767	3,755	3,758	3,758	3,761	3,772	3,774	3,777
Depository institutions	2,029	2,036	2,024	2,025	2,028	2,032	2,037	2,041	2,039	2,037	2,039	2,041	2,045	2,044	2,046
Commercial banks	1,430	1,423	1,418	1,417	1,418	1,421	1,426	1,428	1,426	1,423	1,423	1,427	1,428	1,427	1,429
Savings institutions	253	256	253	254	254	255	255	256	255	255	256	257	259	260	262
Nondepository institutions	681	701	678	683	686	691	697	699	703	709	706	712	717	728	731
Security and commodity brokers	748	763	777	781	781	780	776	766	755	755	755	750	751	741	741
Holding and other investment offices	251	259	259	259	260	258	260	261	258	257	258	258	259	258	259
Insurance	2,346	2,355	2,346	2,351	2,353	2,356	2,358	2,356	2,357	2,357	2,362	2,361	2,356	2,352	2,352
Insurance carriers	1,589	1,596	1,588	1,592	1,593	1,596	1,598	1,598	1,599	1,598	1,601	1,602	1,597	1,594	1,595
Insurance agents, brokers, and service	757	759	758	759	760	760	760	758	758	759	761	759	759	758	757
Real estate	1,504	1,510	1,510	1,510	1,510	1,509	1,516	1,508	1,506	1,508	1,513	1,512	1,510	1,506	1,507
Services[1]	40,460	41,023	40,984	41,020	41,073	40,993	41,078	41,085	41,046	41,129	41,134	40,995	40,889	40,957	40,981
Agricultural services	832	801	818	821	828	824	834	833	834	837	838	841	840	845	843
Hotels and other lodging places	1,914	1,912	1,952	1,957	1,960	1,944	1,935	1,920	1,922	1,912	1,913	1,862	1,852	1,845	1,849
Personal services	1,251	1,275	1,261	1,261	1,265	1,267	1,277	1,279	1,281	1,284	1,284	1,281	1,271	1,294	1,294
Business services	9,858	9,627	9,888	9,851	9,822	9,729	9,702	9,666	9,592	9,588	9,581	9,467	9,356	9,346	9,316
Services to buildings	994	1,001	1,007	1,007	1,007	1,009	1,013	1,008	998	997	997	995	996	992	984
Personnel supply services	3,887	3,531	3,779	3,731	3,694	3,600	3,590	3,556	3,517	3,521	3,488	3,378	3,282	3,252	3,234
Help supply services	3,487	3,142	3,372	3,339	3,293	3,202	3,198	3,161	3,127	3,113	3,106	3,005	2,913	2,894	2,878
Computer and data processing services	2,095	2,193	2,176	2,186	2,195	2,199	2,200	2,205	2,202	2,194	2,200	2,201	2,189	2,189	2,188
Auto repair services and parking	1,248	1,302	1,291	1,291	1,298	1,300	1,309	1,303	1,312	1,307	1,306	1,298	1,305	1,304	1,308
Miscellaneous repair services	366	362	365	365	364	364	363	361	360	362	363	362	360	359	359
Motion pictures	594	592	600	600	605	601	587	602	595	589	586	582	584	580	589
Amusement and recreation services	1,728	1,771	1,769	1,772	1,775	1,764	1,787	1,768	1,772	1,777	1,766	1,781	1,762	1,777	1,771
Health services	10,197	10,497	10,211	10,236	10,259	10,280	10,296	10,329	10,354	10,384	10,408	10,431	10,458	10,483	10,501
Offices and clinics of medical doctors	1,924	1,979	1,953	1,958	1,962	1,967	1,973	1,981	1,983	1,990	1,992	1,993	2,000	2,002	2,007
Nursing and personal care facilities	1,795	1,822	1,806	1,808	1,811	1,816	1,814	1,821	1,823	1,825	1,830	1,834	1,837	1,842	1,846
Hospitals	3,990	4,095	4,035	4,045	4,055	4,062	4,071	4,086	4,098	4,114	4,124	4,135	4,149	4,158	4,166
Home health care services	643	650	646	645	648	646	645	648	647	653	655	655	657	659	661
Legal services	1,010	1,026	1,017	1,020	1,022	1,021	1,027	1,027	1,026	1,028	1,030	1,030	1,030	1,031	1,030
Educational services	2,325	2,420	2,363	2,375	2,384	2,388	2,431	2,426	2,432	2,452	2,446	2,436	2,439	2,457	2,471
Social services	2,903	305'	2,985	2,997	3,009	3,023	3,039	3,056	3,048	3,076	3,085	3,096	3,100	33,105	3,121
Child day care services	712	749	732	734	739	743	745	756	760	765	756	757	755	757	755
Residential care	806	843	827	829	831	835	842	845	847	848	851	854	855	853	960
Museums and botanical and zoological gardens	106	110	109	110	110	109	110	111	111	111	112	112	110	110	110
Membership organizations	2,475	2,498	2,487	2,487	2,489	2,489	2,496	2,501	2,493	2,503	2,509	2,505	2,505	2,506	2,504
Engineering and management services	3,419	3,525	3,496	3,504	3,510	3,517	3,512	3,529	3,540	3,544	3,533	3,538	3,543	3,541	3,543
Engineering and architectural services	1,017	1,060	1,046	1,050	1,052	1,053	1,057	1,059	1,064	1,067	1,067	1,069	1,065	1,063	1,064
Management and public relations	1,090	1,123	1,119	1,123	1,125	1,124	1,121	1,124	1,119	1,123	1,122	1,124	1,127	1,125	1,134
Government	20,681	20,873	20,629	20,680	20,711	20,747	20,770	20,828	20,932	21,005	20,981	20,998	21,006	21,061	21,063
Federal	2,777	2,616	2,613	2,615	2,613	2,615	2,612	2,621	2,626	2,622	2,627	2,625	2,607	2,615	2,608
Federal, except Postal Service	1,917	1,767	1,755	1,756	1,754	1,756	1,754	1,772	1,772	1,774	1,776	1,779	1,777	1,775	1,776
State	4,785	4,880	4,800	4,825	4,836	4,847	4,854	4,881	4,909	4,913	4,931	4,919	4,916	4,928	4,928
Education	2,032	2,088	2,028	2,048	2,055	2,065	2,066	2,089	2,117	2,122	2,129	2,107	2,109	2,112	2,115
Other State government	2,753	2,792	2,772	2,777	2,781	2,782	2,788	2,792	2,792	2,791	2,802	2,812	2,907	2,816	2,813
Local	13,119	13,377	13,216	13,240	13,262	13,285	13,304	13,326	13,397	13,470	13,423	13,454	13,843	13,518	13,527
Education	7,440	7,567	7,468	7,479	7,492	7,495	7,512	7,515	7,575	7,650	7,595	7,607	7,630	7,642	7,641
Other local government	5,679	5,810	5,748	5,761	5,770	5,790	5,792	5,811	5,822	5,820	5,828	5,847	5,853	5,876	5,886

[1] Includes other industries not shown separately.

[P] = preliminary.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[P]	Jan.[P]
PRIVATE SECTOR	34.5	34.2	34.4	34.3	34.3	34.2	34.2	34.2	34.2	34.0	34.1	34.0	34.1	34.1	34.0
GOODS-PRODUCING	41.0	40.3	40.5	40.3	40.5	40.6	40.5	40.4	40.5	40.3	40.2	40.0	40.0	40.1	40.3
MINING	43.1	43.4	43.1	43.2	43.8	44.0	43.9	43.3	43.3	43.4	43.5	43.1	43.2	43.1	42.9
MANUFACTURING	41.6	40.7	41.0	40.9	41.0	41.0	40.7	40.7	40.8	40.7	40.6	40.5	40.3	40.6	40.5
Overtime hours	4.6	3.9	4.2	3.9	4.1	3.9	3.9	3.9	4.0	4.1	3.9	3.8	3.7	3.8	3.9
Durable goods	42.1	41.0	41.3	41.1	41.3	41.3	41.0	40.9	41.2	41.1	40.9	40.7	40.4	40.9	40.8
Overtime hours	4.7	3.9	4.1	3.9	4.0	3.9	3.9	3.9	4.0	4.1	3.8	3.7	3.6	3.8	3.8
Lumber and wood products	41.0	40.3	39.8	40.1	40.3	40.1	40.6	40.4	41.1	40.9	41.1	40.6	40.5	40.7	40.1
Furniture and fixtures	40.0	36.9	39.2	39.1	39.1	39.3	38.6	38.4	39.7	39.7	38.8	38.3	38.4	38.9	40.0
Stone, clay, and glass products	43.1	43.6	43.0	42.8	43.7	43.2	43.9	44.0	44.0	43.9	44.0	43.9	43.8	43.6	44.4
Primary metal industries	44.9	43.6	43.8	43.2	43.4	44.3	43.5	43.9	44.1	43.7	43.7	43.2	42.6	43.9	43.3
Blast furnaces and basic steel products	46.0	44.5	44.7	44.4	44.4	45.4	44.6	45.1	44.7	44.6	45.5	44/0	43.3	43.8	43.8
Fabricated metal products	42.6	41.3	41.7	41.7	41.9	42.0	41.4	41.2	41.6	41.5	41.2	41.0	40.7	41.3	41.3
Industrial machinery and equipment	42.2	40.7	41.5	41.0	41.2	41.3	40.7	40.4	40.8	40.2	40.3	40.4	39.9	40.1	40.1
Electronic and other electrical equipment	41.1	39.4	40.3	40.3	40.1	39.8	39.1	39.3	38.9	39.1	39.1	39.0	38.8	39.3	38.4
Transportation equipment	43.4	41.9	42.0	42.0	42.0	42.4	42.4	41.9	42.2	42.8	41.5	41.3	41.3	41.8	42.7
Motor vehicles and equipment	44.4	42.7	42.1	42.0	42.3	43.3	43.6	43.0	43.0	44.6	42.3	41.9	42.2	43.1	44.5
Instruments and related products	41.3	40.6	41.0	41.1	41.0	41.0	41.0	40.8	40.8	40.4	41.1	40.7	40.3	40.5	40.1
Miscellaneous manufacturing	39.0	37.9	38.3	38.2	38.2	38.2	37.9	38.4	38.4	38.2	37.6	37.5	37.1	37.8	37.5
Nondurable goods	40.8	40.3	40.6	40.4	40.5	40.5	40.3	40.4	40.3	40.1	40.2	40.2	40.0	40.2	40.0
Overtime hours	4.4	4.0	4.3	4.0	4.1	3.9	4.0	3.9	4.0	4.1	4.1	4.1	3.9	4.0	4.0
Food and kindred products	41.7	41.1	41.3	41.1	41.2	41.3	41.1	41.2	40.9	41.1	41.0	41.1	40.8	40.9	40.7
Textile mill products	41.2	40.0	40.7	40.4	40.5	40.3	40.3	40.4	39.7	39.8	39.8	39.7	39.5	40.0	40.0
Apparel and other textile products	37.8	37.3	37.6	37.6	37.5	38.0	37.8	37.5	37.7	36.9	36.9	36.8	36.9	37.3	36.9
Paper and allied products	42.5	41.7	41.9	41.7	41.8	42.0	41.6	41.7	41.9	41.2	41.6	41.5	41.3	41.5	41.4
Printing and publishing	38.3	38.1	38.4	38.4	38.6	38.2	38.0	38.0	38.2	38.0	38.1	38.0	37.8	37.9	37.5
Chemicals and allied products	42.5	42.3	42.6	42.3	42.3	42.6	42.4	42.2	42.7	42.1	42.2	42.3	42.0	41.9	42.0
Rubber and miscellaneous plastics products	41.4	41.7	41.0	40.9	41.0	40.8	40.6	40.7	40.6	40.5	40.8	40.5	40.7	41.2	40.9 38.1
Leather and leather products	37.5	36.4	36.9	36.4	36.1	36.6	35.9	36.2	35.7	36.4	36.3	36.0	36.6	37.5	32.6
SERVICE-PRODUCING	32.8	32.7	32.9	32.8	32.8	32.7	32.7	32.8	32.6	32.6	32.6	32.6	32.6	32.7	32.6
TRANSPORTATION AND PUBLIC UTILITIES	38.6	38.1	38.7	38.5	38.3	38.1	38.1	38.1	37.8	37.8	37.6	37.8	38.8	38.0	37.6
WHOLESALE TRADE	38.5	38.2	38.3	38.1	38.3	38.2	38.2	38.3	38.2	38.3	38.3	38.1	38.2	38.3	38.2
RETAIL TRADE	28.9	28.8	29.1	28.9	28.8	28.8	28.8	28.7	28.6	28.6	28.7	28.7	28.8	28.9	28.8

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[P]	Jan.[P]
PRIVATE SECTOR (in current dollars)	$13.75	$14.33	$14.03	$14.11	$14.17	$14.21	$14.24	$14.31	$14.34	$14.40	$14.45	$14.47	$14.54	$14.59	$14.59
Goods-producing	15.40	15.93	15.67	15.74	15.79	15.78	15.86	15.90	15.93	16.01	16.04	16.05	16.05	16.15	16.24
Mining	17.24	17.65	17.49	17.52	17.55	17.53	17.54	17.73	17.74	17.69	17.67	17.73	17.85	17.80	17.84
Construction	17.88	18.33	18.28	18.30	18.33	18.15	18.22	18.28	18.26	18.35	18.36	18.38	18.46	18.58	18.55
Manufacturing	14.38	14.84	14.54	14.63	14.66	14.72	14.78	14.81	14.86	14.93	14.96	14.97	15.05	15.10	15.13
Excluding overtime	13.62	14.15	13.83	13.94	13.96	14.04	14.09	14.13	14.18	14.24	14.28	14.31	14.38	14.41	14.43
Service-producing	13.24	13.85	13.54	13.62	13.68	13.73	13.76	13.84	13.87	13.93	13.98	14.01	14.07	14.13	14.12
Transportation and public utilities	16.22	16.89	16.51	16.64	16.68	16.74	16.76	16.91	16.88	16.95	17.02	17.09	17.23	17.23	17.26
Wholesale trade	15.20	15.80	15.53	15.60	15.68	15.74	15.70	15.86	15.84	15.81	15.95	15.89	15.91	16.04	16.07
Retail trade	9.46	9.82	9.64	9.69	9.72	9.74	9.79	9.83	9.84	9.87	9.87	9.91	9.98	9.99	9.99
Finance, insurance, and real estate	15.07	15.84	15.44	15.55	15.61	15.64	15.74	15.86	15.91	15.99	16.01	16.05	16.07	16.16	16.16
Services	13.91	14.61	14.25	14.35	14.40	14.48	14.49	14.54	14.61	14.71	14.76	14.81	14.87	14.94	14.93
PRIVATE SECTOR (in constant (1982) dollars)	7.86	8.00	7.90	7.92	7.95	7.94	7.93	7.95	8.00	8.03	8.02	8.06	8.11	8.16	–

[P] = preliminary. Dash indicates data not available.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[P]	Jan.[P]
PRIVATE SECTOR	$13.75	$14.33	$14.10	$14.16	$14.19	$14.27	$14.22	$14.22	$14.27	$14.28	$14.51	$14.50	$14.56	$14.64	$14.67
MINING	17.24	17.65	17.67	17.61	17.57	17.60	17.49	17.59	17.67	17.53	17.67	17.70	17.79	17.90	18.03
CONSTRUCTION	17.88	18.33	18.17	18.16	18.30	18.07	18.17	18.21	18.32	18.43	18.50	18.55	18.51	18.65	18.48
MANUFACTURING	14.38	14.84	14.59	14.61	14.65	14.74	14.75	14.79	14.84	14.89	15.01	14.97	15.07	15.19	15.17
Durable goods	14.82	15.28	14.98	15.03	15.09	15.14	15.19	15.24	15.25	15.37	15.49	15.45	15.55	15.68	15.64
Lumber and wood products	11.93	12.25	12.13	12.08	12.08	12.13	12.16	12.19	12.32	12.37	12.45	12.34	12.41	12.37	12.36
Furniture and fixtures	11.73	12.21	11.92	12.03	12.04	12.07	12.09	12.15	12.24	12.29	12.35	12.39	12.40	12.56	12.60
Stone, clay, and glass products	14.53	15.03	14.65	14.68	14.79	14.96	15.03	15.13	15.12	15.17	15.22	15.20	15.16	15.23	15.35
Primary metal industries	16.42	16.96	16.66	16.58	16.63	16.90	16.82	16.96	17.11	17.06	17.27	17.12	17.31	17.26	17.21
Blast furnaces and basic steel products	19.82	20.43	20.16	20.05	20.00	20.37	20.26	20.39	20.48	20.63	20.91	20.55	20.75	20.61	20.68
Fabricated metal products	13.87	14.26	13.99	14.03	14.08	14.11	14.23	14.25	14.27	14.34	14.42	14.33	14.44	14.63	14.56
Industrial machinery and equipment	15.55	15.91	15.73	15.74	15.77	15.74	15.79	15.82	15.90	15.96	16.05	16.09	16.15	16.33	16.34
Electronic and other electrical equipment	13.80	14.53	14.07	14.16	14.26	14.39	14.38	14.51	14.59	14.72	14.84	14.78	14.87	15.01	14.97
Transportation equipment	18.45	19.01	18.57	18.68	18.76	18.77	18.83	18.90	18.80	19.08	19.31	19.37	19.51	19.65	19.49
Motor vehicles and equipment	18.79	19.36	18.77	18.91	19.02	19.13	19.18	19.25	19.04	19.39	19.68	19.82	19.96	20.19	19.99
Instruments and related products	14.43	14.87	14.64	14.60	14.73	14.80	14.75	14.81	14.98	15.00	15.06	15.00	15.03	15.16	15.20
Miscellaneous manufacturing	11.63	12.19	11.98	11.98	12.05	12.04	12.10	12.07	12.12	12.23	12.37	12.27	12.46	12.67	12.58
Nondurable goods	13.69	14.17	12.97	13.97	13.97	14.12	14.07	14.11	14.23	14.17	14.31	14.28	14.37	14.45	14.47
Food and kindred products	12.50	12.88	12.70	12.65	12.68	12.79	12.83	12.86	12.93	12.87	12.95	12.91	13.11	13.21	113.11
Tobacco products	21.57	22.28	21.34	21.49	22.63	22.59	23.01	23.17	23.63	21.90	21.70	21.71	22.32	22.21	21.87
Textile mill products	11.16	11.35	11.32	11.27	11.31	11.30	11.29	11.32	11.37	11.39	11.40	11.34	11.43	11.52	11.61
Apparel and other textile products	9.30	9.47	9.39	9.36	9.46	9.44	9.39	9.45	9.40	9.44	9.56	9.49	9.58	9.47	9.73
Paper and allied products	16.25	16.86	16.53	16.54	16.56	16.74	16.72	16.90	16.99	16.87	17.12	17.11	17.13	17.17	17.23
Printing and publishing	14.40	14.82	14.59	14.64	14.69	14.75	14.75	14.74	14.83	14.87	15.01	14.96	14.93	15.04	15.06
Chemicals and allied products	18.15	18.59	18.34	18.41	18.33	18.64	18.52	18.55	18.69	18.54	18.86	18.70	18.74	18.81	18.93
Petroleum and coal products	22.00	22.09	22.10	22.21	21.83	22.09	21.83	21.78	22.02	22.20	22.27	22.36	22.38	21.95	21.79
Rubber and miscellaneous plastics products	12.85	13.39	13.24	13.31	13.19	13.33	13.30	13.30	13.38	13.44	13.51	13.48	13.53	13.67	13.68
Leather and leather products	10.18	10.31	10.51	10.35	10.46	10.37	10.26	10.30	10.25	10.35	10.25	10.21	10.09	10.25	10.22
TRANSPORTATION AND PUBLIC UTILITIES	16.22	16.89	16.56	16.68	16.65	16.78	16.70	16.83	16.89	16.97	17.07	17.09	17.23	17.26	17.30
WHOLESALE TRADE	15.20	15.80	15.56	15.62	15.58	15.86	15.66	15.77	15.88	15.75	16.03	15.85	15.91	16.16	16.09
RETAIL TRADE	9.46	9.82	9.69	9.72	9.74	9.78	9.78	9.77	9.77	9.79	9.92	9.93	9.98	9.99	10.05
FINANCE, INSURANCE, AND REAL ESTATE	15.07	15.84	15.45	15.63	15.67	15.81	15.74	15.75	15.85	15.84	16.05	15.96	16.04	16.21	16.18
SERVICES	13.91	14.61	14.39	14.47	14.48	14.58	14.46	14.39	14.46	14.46	14.78	14.80	14.92	15.09	15.08

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

verage weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2000												2002
	2000	2001	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[p]	Jan.[p]
E SECTOR															
ent dollars	$474.38	$490.09	$480.17	$481.44	$482.46	$486.61	$484.90	$489.17	$493.74	$491.23	$497.69	$493.00	$495.04	$503.62	$492.91
easonally adjusted	–	–	479.83	483.97	486.03	485.98	487.01	489.40	490.43	489.60	492.75	491.98	495.81	499.66	492.91
stant (1982) dollars	272.16	273.64	272.51	270.62	270.89	271.70	269.39	271.46	275.22	273.82	275.88	274.50	276.10	282.30	275.83
	743.04	766.01	747.20	751.95	757.27	765.60	769.56	768.68	772.18	764.31	777.48	773.49	764.97	771.49	760.87
TRUCTION	702.68	718.54	694.56	682.82	702.52	695.70	728.62	728.40	740.13	739.04	736.30	732.73	720.04	714.30	711.48
FACTURING															
ent dollars	598.21	603.99	607.34	591.71	597.72	588.13	600.33	603.43	598.05	607.51	615.41	609.28	613.35	627.35	612.87
stant (1982) dollars	343.21	337.24	344.69	332.61	335.61	328.38	333.52	334.87	333.36	338.63	341.14	339.24	342.08	351.65	342.96
e goods	623.92	626.48	630.09	613.22	620.20	607.11	624.31	626.36	617.63	633.24	639.74	631.91	636.00	652.29	636.55
nber and wood products	489.13	496.13	486.01	473.54	483.20	483.99	497.34	498.57	502.66	509.64	517.92	504.71	503.85	502.33	490.69
niture and fixtures	469.20	474.90	476.01	461.95	467.15	457.45	462.22	468.99	481.03	491.60	489.06	478.25	479.88	501.14	501.48
ne, clay, and glass roducts	626.24	655.31	624.13	610.69	631.53	638.79	665.83	670.26	669.82	676.58	686.42	674.88	668.56	664.03	664.66
mary metal industries	737.26	739.46	735.93	716.26	718.42	730.08	731.67	744.54	742.57	743.82	766.79	737.87	747.79	768.07	746.91
ast furnaces and basic teel products	911.72	909.14	890.62	882.20	884.00	920.72	899.54	919.59	919.55	920.10	959.77	900.09	908.85	902.72	895.44
bricated metal products	590.86	588.94	596.01	580.84	585.73	567.22	589.12	589.95	582.22	595.11	598.43	590.40	594.93	617.39	596.96
ustrial machinery and quipment	656.21	657.54	662.44	648.49	651.30	628.03	644.23	640.71	640.77	640.00	648.42	648.43	649.23	669.53	658.50
ctronic and other electrical quipment	567.18	572.48	585.22	566.40	568.97	554.02	559.38	570.24	558.80	577.02	584.70	584.39	580.85	603.40	574.85
nsportation equipment	800.73	796.52	807.50	775.22	789.80	765.82	804.04	799.47	765.16	814.72	809.09	807.73	818.52	841.02	824.43
otor vehicles and equipment	834.28	826.67	826.47	786.66	808.35	791.98	840.08	839.30	780.64	858.98	844.27	840.37	852.29	890.38	873.56
ruments and related roducts	595.96	606.70	621.72	605.90	605.40	594.96	602.48	602.77	605.19	606.00	618.97	609.00	610.22	624.59	611.04
cellaneous manufacturing	453.57	462.00	460.88	454.04	461.52	450.30	458.59	463.49	458.14	468.41	467.59	462.58	464.76	483.99	466.72
urable goods	558.55	571.05	569.98	560.20	561.59	559.15	564.21	568.63	569.20	571.05	582.42	576.91	589.99	589.56	577.35
od and kindred products	521.25	529.37	528.74	509.80	513.54	510.32	522.18	528.55	528.84	535.39	543.90	538.35	544.07	549.54	529.64
bacco products	877.90	893.43	892.16	831.66	893.89	885.53	906.59	956.92	952.29	878.19	885.36	881.43	899.50	917.27	846.37
xtile mill products	459.79	454.00	462.07	449.67	458.06	444.09	454.99	458.46	444.57	456.74	458.28	540.20	454.91	466.56	464.40
parel and other textile roducts	351.54	353.23	353.25	352.87	355.70	346.45	355.88	357.21	349.68	350.22	350.85	348.28	354.46	365.31	355.15
per and allied products	690.63	703.06	705.93	683.10	687.24	688.01	690.54	701.35	708.48	695.04	722.46	715.20	717.75	726.29	716.77
nting and publishing	551.52	564.64	564.41	557.78	565.57	554.60	556.08	557.17	563.54	568.03	577.89	571.47	573.31	577.54	561.74
emicals and allied products	771.38	786.36	788.67	778.74	773.53	790.34	783.40	782.81	790.59	778.68	797.78	791.01	794.58	799.43	793.17
roleum and coal products	932.80	943.24	952.64	957.25	936.51	965.33	910.31	934.36	953.47	954.60	955.38	936.88	935.48	906.54	886.84
bber and miscellaneous astics products	531.99	544.97	543.84	543.05	538.15	529.20	539.98	543.97	535.20	544.32	556.61	548.64	553.38	574.14	559.51
ther and leather products	381.75	375.28	382.65	373.64	375.51	369.17	370.39	378.01	360.80	379.85	377.20	369.60	373.33	385.40	385.29
SPORTATION AND LIC UTILITIES	626.09	643.51	638.06	637.18	362.70	641.00	632.93	642.91	650.27	646.56	648.66	646.00	649.57	661.06	643.56
ESALE TRADE	585.20	603.56	596.71	590.44	592.04	607.44	598.59	603.99	611.38	603.23	620.36	603.89	607.76	623.78	609.81
L TRADE	273.39	282.82	278.89	276.05	276.62	281.66	280.69	283.33	288.22	286.85	285.70	283.01	284.43	291.71	281.40
CE, INSURANCE, REAL ESTATE	547.04	547.99	553.05	567.37	564.12	580.23	565.78	570.15	581.70	571.82	589.04	571.37	577.44	594.91	579.24
CES	454.86	477.75	467.16	471.72	472.05	476.77	469.95	471.99	478.63	474.29	483.31	479.52	484.90	496.46	485.58

liminary.
See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1998	63.2	56.2	59.3	60.2	58.9	57.1	55.4	58.4	54.8	55.0	58.2	56.4
1999	55.1	59.6	52.8	57.2	58.2	54.2	57.1	54.4	55.2	57.9	59.9	56.8
2000	55.7	59.3	61.0	54.2	47.7	60.5	57.8	55.1	52.0	54.8	55.1	54.2
2001	53.7	50.4	55.8	45.0	46.6	44.3	45.5	43.9	44.1	38.7	38.7	41.2
2002	50.1	–	–	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	65.3	66.1	64.6	65.7	62.2	57.9	57.5	58.4	59.1	59.2	59.3	59.2
1999	60.8	57.8	58.5	55.8	58.1	57.9	57.2	59.2	59.8	59.1	61.0	60.6
2000	61.6	63.3	61.9	56.2	55.1	57.9	61.5	56.4	54.1	53.3	55.7	53.3
2001	51.7	54.1	48.6	49.2	42.5	42.4	40.5	39.9	38.8	35.8	35.0	38.1
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	70.4	67.4	65.0	62.5	63.6	60.5	59.2	58.6	57.9	59.6	60.6	59.9
1999	59.8	59.8	58.2	60.3	56.7	59.2	61.8	60.8	62.2	61.2	62.3	64.9
2000	63.5	60.6	62.6	63.7	61.5	55.5	56.1	58.6	54.2	54.8	51.8	54.2
2001	52.0	50.6	48.6	45.3	44.1	38.5	37.1	35.6	34.4	35.4	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1998	69.7	67.6	67.4	66.0	64.0	62.7	61.9	62.0	60.9	59.3	60.8	58.8
1999	61.2	60.2	58.2	60.8	60.8	61.6	62.2	61.3	63.9	63.0	61.3	60.9
2000	62.5	63.0	61.8	59.5	58.4	56.8	55.7	56.5	54.2	53.4	53.0	51.8
2002	–	–	–	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1998	57.4	51.5	53.7	53.3	43.8	48.2	38.2	51.5	41.9	41.5	41.2	43.4
1999	46.9	44.5	43.0	42.3	50.4	39.3	51.5	39.3	45.2	46.3	53.3	46.7
2000	44.9	56.6	55.5	46.7	41.2	54.8	53.7	38.6	34.6	41.5	43.8	44.1
2001	37.9	32.4	41.5	31.3	29.4	33.1	39.0	27.6	36.0	29.4	25.7	28.7
2002	40.8	–	–	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	59.6	59.6	55.9	50.4	46.7	37.9	41.5	41.5	41.9	38.2	36.8	40.8
1999	41.2	39.0	38.2	41.8	40.8	45.2	39.0	45.2	40.8	44.9	46.3	46.0
2000	50.0	54.0	52.9	42.3	43.0	48.5	48.2	33.6	28.7	30.5	39.0	35.7
2001	28.3	29.4	24.6	26.5	22.4	24.6	21.0	19.9	19.9	21.0	17.3	21.7
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	63.2	54.4	50.4	40.4	44.5	40.1	37.5	36.4	34.9	40.1	37.1	34.2
1999	36.0	38.2	37.5	41.2	36.8	39.7	43.0	41.5	46.0	40.4	46.3	51.5
2000	51.5	44.5	48.5	55.1	43.8	34.9	33.5	34.6	30.1	29.4	25.0	27.9
2001	26.8	25.4	19.9	20.6	20.2	15.1	13.2	14.0	11.8	15.8	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1998	54.8	52.2	51.8	46.7	40.4	40.1	38.2	37.5	36.4	34.6	35.7	34.2
1999	38.6	34.6	32.4	36.0	37.9	39.0	40.1	40.4	44.5	46.0	44.9	44.5
2000	46.3	45.2	41.2	37.9	33.8	31.3	31.3	31.3	27.6	25.4	24.3	21.3
2001	19.1	16.5	14.7	16.2	15.1	12.1	14.0	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–

Dash indicates data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with inceasing and decreasing employment.

Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Establishment size and employment covered under UI, private ownership, by major industry division, first quarter 2000

Industry, establishments, and employment	Total	Size of establishments								
		Fewer than 5 workers[1]	5 to 9 workers	10 to 19 workers	20 to 49 workers	50 to 99 workers	100 to 249 workers	250 to 499 workers	500 to 999 workers	1,000 or more workers
Total, all industries[2]										
Establishments, first quarter	7,531,330	4,413,181	1,302,488	850,411	590,662	206,415	119,172	31,311	11,713	5,977
Employment, March	108,195,174	6,831,146	8,615,974	11,471,927	17,878,154	14,212,796	17,895,603	10,658,780	7,965,372	12,665,422
Agriculture, forestry, and fishing										
Establishments, first quarter	200,289	123,880	37,646	22,736	11,179	2,875	1,473	370	106	24
Employment, March	1,702,493	179,158	248,989	302,599	326,510	196,681	216,628	126,181	69,476	36,271
Mining										
Establishments, first quarter	27,284	14,102	4,323	3,728	3,202	1,023	591	214	76	25
Employment, March	524,514	22,082	28,959	51,183	97,241	69,762	89,714	74,836	52,916	37,821
Construction										
Establishments, first quarter	747,563	477,549	126,844	76,253	46,543	13,242	5,748	1,053	272	59
Employment, March	6,310,456	703,310	831,405	1,024,819	1,389,870	898,785	846,893	347,400	182,357	85,617
Manufacturing										
Establishments, first quarter	405,838	147,029	67,385	61,150	61,487	30,568	24,264	8,646	3,598	1,711
Employment, March	18,433,795	251,154	453,397	842,691	1,922,360	2,144,676	3,739,308	2,977,743	2,446,323	3,656,143
Transportation and public utilities										
Establishments, first quarter	315,413	174,645	49,173	36,475	30,720	12,952	7,913	2,127	892	516
Employment, March	6,678,516	272,380	325,334	498,572	945,800	895,012	1,190,459	726,615	618,630	1,205,714
Wholesale trade										
Establishments, first quarter	664,094	400,335	110,091	77,321	52,153	15,187	7,019	1,478	414	96
Employment, March	6,947,770	621,924	729,753	1,046,983	1,565,359	1,035,060	1,035,170	496,350	274,988	142,183
Retail trade										
Establishments, first quarter	1,458,626	623,529	329,260	235,941	179,053	57,988	26,380	4,982	1,169	324
Employment, March	22,807,395	1,154,942	2,204,569	3,190,042	5,437,335	3,943,391	3,880,016	1,659,975	764,056	573,069
Finance, insurance, and real estate										
Establishments, first quarter	671,294	438,402	114,349	62,141	35,549	11,618	6,025	1,799	898	513
Employment, March	7,379,831	714,292	751,197	826,817	1,065,116	797,168	912,396	621,570	615,246	1,076,029
Services										
Establishments, first quarter	2,890,313	1,879,338	451,715	271,168	169,867	60,864	39,727	10,640	4,286	2,708
Employment, March	37,110,557	2,772,133	2,967,673	3,643,823	5,102,854	4,225,937	5,980,102	3,627,319	2,939,641	5,851,075

[1] Includes establishments that reported no workers in March 2000.

[2] Includes data for nonclassifiable establishments, not shown separately.

NOTE: Detail may not add to totals due to rounding.

19. Annual data: establishments, employment, and wages covered under UI and UCFE by ownership

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wages per employee	Average weekly wage
	Total covered (UI and UCFE)				
1991	6,382,523	106,884,831	$2,626,972,030	$24,578	$473
1992	6,532,608	107,413,728	2,781,676,477	25,897	498
1993	6,679,934	109,422,571	2,884,472,282	26,361	507
1994	6,826,677	112,611,287	3,033,676,678	26,939	518
1995	7,040,677	115,487,841	3,215,921,236	27,846	536
1996	7,189,168	117,963,132	3,414,514,808	28,946	557
1997	7,369,473	121,044,432	3,674,031,718	30,353	584
1998	7,634,018	124,183,549	3,967,072,423	31,945	614
1999	7,820,860	127,042,282	4,235,579,204	33,340	641
2000	7,879,116	129,877,063	4,587,708,584	35,323	679
	UI covered				
1991	6,336,151	103,755,832	$2,524,937,018	$24,335	$468
1992	6,485,473	104,288,324	2,672,081,827	25,622	493
1993	6,632,221	106,351,431	2,771,023,411	26,055	501
1994	6,778,300	109,588,189	2,918,684,128	26,633	512
1995	6,990,594	112,539,795	3,102,353,355	27,567	530
1996	7,137,644	115,081,246	3,298,045,286	28,658	551
1997	7,317,363	118,233,942	3,553,933,885	30,058	578
1998	7,586,767	121,400,660	3,845,494,089	31,676	609
1999	7,771,198	124,255,714	4,112,169,533	33,094	636
2000	7,828,861	127,005,574	4,454,966,824	35,077	675
	Private industry covered				
1991	6,162,684	89,007,096	$2,152,021,705	$24,178	$465
1992	6,308,719	89,349,803	2,282,598,431	25,547	491
1993	6,454,381	91,202,971	2,365,301,493	25,934	499
1994	6,596,158	94,146,344	2,494,458,555	26,496	510
1995	6,803,454	96,894,844	2,658,927,216	27,441	528
1996	6,946,858	99,268,446	2,837,334,217	28,582	550
1997	7,121,182	102,175,161	3,071,807,287	30,064	578
1998	7,381,518	105,082,368	3,337,621,699	31,762	611
1999	7,560,567	107,819,457	3,577,738,557	33,244	639
2000	7,622,274	110,015,333	3,887,626,769	35,337	680
	State government covered				
1991	58,499	4,005,321	$108,672,127	$27,132	$522
1992	58,801	4,044,914	112,405,340	27,789	534
1993	59,185	4,088,075	117,095,062	28,643	551
1994	60,686	4,162,944	122,879,977	29,518	568
1995	60,763	4,201,836	128,143,491	30,497	586
1996	62,146	4,191,726	131,605,800	31,397	604
1997	65,352	4,214,451	137,057,432	32,521	625
1998	67,347	4,240,779	142,512,445	33,605	646
1999	70,538	4,296,673	149,011,194	34,681	667
2000	65,096	4,370,160	158,618,365	36,296	698
	Local government covered				
1991	114,936	10,742,558	$264,215,610	$24,595	$473
1992	117,923	10,892,697	277,045,557	25,434	489
1993	118,626	11,059,500	288,594,697	26,095	502
1994	121,425	11,278,080	301,315,857	26,717	514
1995	126,342	11,442,238	315,252,346	27,552	530
1996	128,640	11,621,074	329,105,269	28,320	545
1997	130,829	11,844,330	345,069,166	29,134	560
1998	137,902	12,077,513	365,359,945	30,251	582
1999	140,093	12,339,584	385,419,781	31,234	601
2000	141,491	12,620,081	408,721,690	32,387	623
	Federal Government covered (UCFE)				
1991	46,372	3,128,999	$102,035,012	$32,609	$627
1992	47,136	3,125,404	109,594,650	35,066	674
1993	47,714	3,071,140	113,448,871	36,940	710
1994	48,377	3,023,098	114,992,550	38,038	731
1995	50,083	2,948,046	113,567,881	38,523	741
1996	51,524	2,881,887	116,469,523	40,414	777
1997	52,110	2,810,489	120,097,833	42,732	822
1998	47,252	2,782,888	121,578,334	43,688	840
1999	49,661	2,786,567	123,409,672	44,287	852
2000	50,256	2,871,489	132,741,760	46,228	889

NOTE: Detail may not add to totals due to rounding.

20. Annual data: establishments, employment, and wages covered under UI and UCFE, by State

State	Average establishments		Average annual employment		Total annual wages (in thousands)		Average weekly wage	
	2000	1999-2000 change	2000	1999-2000 change	2000	1999-2000 change	2000	1999-2000 change
Total United States	7,879,116	58,256	129,877,063	2,834,781	$4,587,708,584	$352,129,380	$679	$38
Alabama	112,328	454	1,877,963	6,911	54,538,027	1,970,401	558	18
Alaska	18,820	32	275,607	6,674	9,685,341	532,709	676	22
Arizona	115,171	2,589	2,220,712	70,174	72,417,033	6,772,271	627	40
Arkansas	72,240	406	1,130,891	17,750	29,761,939	1,520,062	506	18
California	1,026,568	-33,271	14,867,006	472,932	612,318,313	71,430,084	792	69
Colorado	148,479	6,278	2,186,656	81,404	81,273,035	9,292,033	715	57
Connecticut	107,787	1,696	1,674,728	22,363	76,176,856	5,650,414	875	54
Delaware	24,751	584	406,350	4,210	14,845,185	707,255	703	27
District of Columbia	28,409	1,474	637,292	21,588	33,753,742	2,423,907	1,019	40
Florida	444,731	9,134	7,060,986	216,337	215,780,400	17,731,492	588	32
Georgia	225,040	6,628	3,883,005	88,250	132,853,189	10,161,751	658	36
Hawaii	34,027	1,564	553,185	15,440	16,942,944	921,218	589	16
Idaho	45,399	1,128	563,193	20,785	15,600,825	1,474,196	533	32
Illinois	322,324	2,721	5,940,772	90,253	226,012,936	13,664,320	732	34
Indiana	152,846	-1,089	2,936,634	29,778	91,086,141	3,800,930	596	19
Iowa	97,091	2,479	1,443,394	12,412	40,312,331	1,743,623	537	19
Kansas	80,477	1,036	1,313,742	14,945	38,571,763	2,164,568	565	26
Kentucky	107,740	2,403	1,762,949	31,482	50,774,667	2,669,580	554	20
Louisiana	118,216	1,549	1,869,219	21,317	52,131,235	1,838,194	536	13
Maine	44,865	956	590,818	17,005	16,344,365	916,386	532	15
Maryland	146,559	1,117	2,405,510	58,631	87,548,876	6,606,334	700	37
Massachusetts	187,391	344	3,275,135	83,493	145,184,150	16,396,342	852	76
Michigan	260,885	2,244	4,585,211	82,445	169,702,272	8,726,750	712	24
Minnesota	155,711	4,932	2,608,543	57,751	92,377,120	6,959,859	681	37
Mississippi	63,970	229	1,137,304	-1,880	28,665,889	879,567	485	16
Missouri	163,080	2,303	2,677,110	31,687	84,020,093	4,745,993	604	28
Montana	38,349	1,585	379,094	7,855	9,202,211	567,364	467	20
Nebraska	51,838	4	882,918	16,308	24,449,709	1,370,028	533	21
Nevada	48,126	194	1,017,902	41,975	32,853,744	2,392,271	621	21
New Hampshire	45,924	494	606,543	15,318	21,069,920	2,067,493	668	50
New Jersey	270,384	-15,337	3,877,572	85,195	169,355,641	13,725,235	840	51
New Mexico	47,987	693	717,243	16,339	19,722,105	1,311,285	529	24
New York	529,103	4,797	8,471,416	178,874	384,241,451	34,472,229	872	61
North Carolina	222,234	7,270	3,862,782	58,413	120,007,446	7,922,007	597	30
North Dakota	23,297	240	309,223	3,263	7,632,602	365,713	475	18
Ohio	280,988	1,073	5,513,217	62,090	179,218,763	8,080,924	625	21
Oklahoma	89,298	1,368	1,452,166	29,357	39,191,626	2,464,854	519	23
Oregon	109,050	-1,296	1,608,069	32,067	52,703,467	4,049,166	630	36
Pennsylvania	315,284	13,267	5,558,076	98,602	189,058,210	10,557,733	654	25
Rhode Island	33,327	621	467,602	10,766	15,250,760	1,011,495	627	28
South Carolina	109,370	-1,993	1,820,138	27,993	51,289,516	2,664,765	542	20
South Dakota	27,145	437	364,119	8,334	9,030,727	574,920	477	20
Tennessee	125,247	-51	2,667,230	40,186	81,495,110	4,055,765	588	21
Texas	489,795	8,425	9,289,286	272,645	324,579,638	27,952,132	672	39
Utah	66,144	2,282	1,044,143	26,519	30,518,822	2,131,853	562	26
Vermont	23,870	805	296,462	8,473	8,571,976	624,326	556	25
Virginia	192,745	3,212	3,427,954	100,832	120,567,926	10,689,950	676	41
Washington	221,150	9,010	2,706,462	62,732	100,381,521	5,904,038	713	26
West Virginia	46,830	21	686,622	6,014	18,461,154	752,890	517	17
Wisconsin	145,871	977	2,736,054	44,603	83,980,263	4,294,806	590	21
Wyoming	20,861	238	230,857	5,892	6,195,607	425,897	516	23
Puerto Rico	52,371	202	1,026,175	23,785	19,306,364	709,126	362	5
Virgin Islands	3,255	32	42,349	1,411	1,173,955	104,996	533	31

NOTE: Detail may not add to totals due to rounding.

21. Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
United States[4]	129,877,063	2.2	–	35,323	5.9
Jefferson, AL	384,662	.6	256	34,026	3.9
Madison, AL	154,356	1.7	186	35,837	5.0
Mobile, AL	169,469	-.1	291	28,623	2.4
Montgomery, AL	131,988	.2	285	28,894	3.2
Tuscaloosa, AL	76,499	.8	244	29,064	2.5
Anchorage, AK	129,700	2.0	164	36,659	2.7
Maricopa, AZ	1,544,971	3.6	48	35,110	7.8
Pima, AZ	328,426	3.1	77	29,194	3.5
Pulaski, AR	243,157	.4	272	30,799	3.8
Sebastian, AR	75,197	1.1	228	27,011	4.8
Washington, AR	80,045	3.3	61	26,408	3.8
Alameda, CA	696,242	3.0	84	45,091	9.8
Contra Costa, CA	336,691	3.1	78	42,318	3.7
Fresno, CA	322,759	1.9	169	26,162	4.8
Kern, CA	238,250	2.1	153	28,572	5.7
Los Angeles, CA	4,098,154	1.7	187	39,651	4.9
Marin, CA	111,645	2.1	154	42,600	8.5
Monterey, CA	164,646	2.5	118	29,962	5.1
Orange, CA	1,394,414	3.6	49	39,247	4.8
Placer, CA	107,182	8.9	3	33,386	5.3
Riverside, CA	469,467	5.3	12	29,136	4.7
Sacramento, CA	573,942	2.6	107	37,732	7.2
San Bernardino, CA	528,437	3.0	85	29,901	3.8
San Diego, CA	1,195,116	3.0	86	37,535	8.1
San Francisco, CA	609,138	3.7	43	57,532	12.0
San Joaquin, CA	201,070	3.1	79	29,237	4.7
San Luis Obispo, CA	94,883	3.6	50	28,096	6.2
San Mateo, CA	378,494	5.3	13	67,051	30.4
Santa Barbara, CA	176,901	3.0	87	32,566	8.2
Santa Clara, CA	1,030,633	6.1	9	76,213	24.7
Santa Cruz, CA	101,833	3.3	62	35,819	15.5
Solano, CA	117,217	3.7	44	31,670	8.4
Sonoma, CA	190,946	3.1	80	35,715	11.3
Stanislaus, CA	160,948	1.7	188	28,201	4.4
Tulare, CA	132,986	3.6	51	23,750	4.6
Ventura, CA	287,611	3.4	57	37,069	9.1
Yolo, CA	84,565	1.5	201	33,438	3.3
Adams, CO	144,806	3.6	52	33,428	4.8
Arapahoe, CO	284,236	3.9	38	46,254	7.8
Boulder, CO	179,719	8.2	4	45,564	13.9
Denver, CO	469,137	3.2	69	44,343	11.6
El Paso, CO	237,739	3.4	58	33,039	7.7
Jefferson, CO	210,519	2.6	108	36,195	5.2
Larimer, CO	119,155	5.1	16	32,394	7.9
Fairfield, CT	427,557	1.1	229	61,156	8.5
Hartford, CT	501,562	1.1	230	43,656	6.2
New Haven, CT	367,343	1.1	231	38,355	5.4
New London, CT	123,039	.6	257	36,757	3.8
New Castle, DE	281,920	-.7	301	40,491	4.5
Washington, DC	637,292	3.5	54	52,964	4.1
Alachua, FL	117,658	2.5	119	26,155	3.9
Brevard, FL	181,314	3.3	63	32,101	7.2
Broward, FL	644,192	3.3	64	33,234	6.5
Collier, FL	103,264	6.9	6	29,962	6.9
Duval, FL	434,219	4.1	32	32,777	4.6
Escambia, FL	125,666	1.0	235	26,709	4.5
Hillsborough, FL	588,792	2.5	120	31,707	4.8
Lee, FL	162,304	4.4	25	28,148	6.4
Leon, FL	141,978	2.2	142	29,249	4.1
Manatee, FL	([5])	([5])	([5])	([5])	([5])
Marion, FL	83,319	1.7	189	24,953	3.3
Miami-Dade, FL	980,394	2.3	135	33,333	3.9
Orange, FL	611,469	3.2	70	31,123	4.6
Palm Beach, FL	481,395	4.1	33	35,233	7.3
Pinellas, FL	436,390	4.2	29	31,263	5.4
Polk, FL	183,222	2.6	109	27,881	3.5
Sarasota, FL	([5])	([5])	([5])	([5])	([5])
Seminole, FL	139,610	4.6	23	30,835	6.9
Volusia, FL	141,652	1.4	207	25,079	5.5
Bibb, GA	88,790	-1.2	308	29,299	3.2
Chatham, GA	122,785	1.3	214	29,650	1.9
Clayton, GA	116,368	-.6	296	36,774	6.7
Cobb, GA	301,183	1.3	215	38,792	5.4

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Dekalb, GA	310,659	-.6	297	38,614	4.9
Fulton, GA	754,368	2.7	103	47,060	8.5
Gwinnett, GA	281,654	4.1	34	39,051	6.0
Muscogee, GA	98,315	-.1	292	27,744	3.7
Richmond, GA	106,260	-.6	298	28,592	3.6
Honolulu, HI	407,935	2.6	110	31,874	2.8
Ada, ID	177,741	6.5	8	34,460	10.0
Champaign, IL	90,429	2.8	96	29,183	4.2
Cook, IL	2,687,795	1.3	216	42,898	5.8
Du Page, IL	582,352	1.7	190	42,570	3.6
Kane, IL	193,410	2.9	91	32,173	.1
Lake, IL	310,689	3.1	81	42,620	6.7
McHenry, IL	87,258	1.9	170	32,007	2.0
McLean, IL	84,324	.6	258	34,254	4.1
Madison, IL	94,550	.4	273	28,974	2.9
Peoria, IL	102,801	.1	287	31,387	1.6
Rock Island, IL	80,273	.8	245	33,525	4.5
St. Clair, IL	89,963	2.2	143	26,878	2.6
Sangamon, IL	144,286	4.4	26	34,764	1.7
Will, IL	142,355	3.5	55	32,313	2.1
Winnebago, IL	143,760	.5	265	31,499	2.0
Allen, IN	189,425	.3	281	32,279	3.0
Elkhart, IN	122,468	.6	259	30,339	2.3
Hamilton, IN	77,452	3.0	88	37,931	7.9
Lake, IN	199,421	-.6	299	31,564	4.0
Marion, IN	605,903	1.6	194	36,473	3.2
St. Joseph, IN	129,558	.5	266	29,657	3.5
Tippecanoe, IN	77,377	1.1	232	31,083	4.0
Vanderburgh, IN	109,904	.7	251	29,569	3.2
Linn, IA	121,968	2.1	155	34,097	4.9
Polk, IA	263,940	1.3	217	33,666	2.5
Scott, IA	87,113	-.4	295	29,067	3.9
Johnson, KS	287,797	2.8	97	37,247	6.7
Sedgwick, KS	249,846	.0	289	32,696	2.9
Shawnee, KS	100,223	2.4	130	29,375	3.2
Wyandotte, KS	79,746	1.8	177	34,592	2.9
Fayette, KY	172,031	1.8	178	30,713	3.8
Jefferson, KY	439,103	1.4	208	33,334	3.9
Caddo, LA	119,449	.3	282	28,767	3.2
Calcasieu, LA	83,976	.1	288	28,226	.9
East Baton Rouge, LA	246,434	2.7	104	29,257	1.6
Jefferson, LA	214,680	-.7	302	28,051	2.1
Lafayette, LA	114,059	2.3	136	29,911	5.5
Orleans, LA	263,551	1.9	171	31,694	1.3
Cumberland, ME	166,757	3.7	45	30,752	1.1
Anne Arundel, MD	194,018	5.3	14	35,461	7.3
Baltimore, MD	358,117	1.2	222	34,119	4.7
Frederick, MD	77,323	4.9	22	30,847	5.9
Howard, MD	128,678	3.2	71	37,897	5.1
Montgomery, MD	447,314	5.0	20	43,708	5.8
Prince Georges, MD	303,262	3.3	65	37,060	6.9
Baltimore City, MD	386,411	.8	246	38,579	4.5
Barnstable, MA	88,589	3.7	46	29,726	.0
Bristol, MA	221,539	1.3	218	30,785	4.6
Essex, MA	305,382	2.5	121	39,154	8.8
Hampden, MA	204,303	1.9	172	32,220	4.8
Middlesex, MA	846,931	3.1	82	52,091	11.8
Norfolk, MA	325,018	2.4	131	43,368	10.4
Plymouth, MA	166,482	1.3	219	33,931	6.3
Suffolk, MA	608,285	3.3	66	56,699	11.6
Worcester, MA	321,131	2.5	122	37,657	10.8
Genesee, MI	165,297	-1.4	313	36,324	1.4
Ingham, MI	174,315	2.0	165	34,963	5.6
Kalamazoo, MI	118,342	-.1	293	32,675	2.3
Kent, MI	347,707	1.6	195	33,996	2.6
Macomb, MI	337,504	.3	283	40,904	3.5
Oakland, MI	768,629	1.0	236	44,500	4.2
Ottawa, MI	118,711	1.8	179	31,947	3.5
Saginaw, MI	95,474	-.8	304	34,672	2.5
Washtenaw, MI	195,624	.5	267	40,182	5.3
Wayne, MI	866,282	1.2	223	42,440	3.5
Anoka, MN	108,989	3.8	40	33,928	4.5
Dakota, MN	153,364	2.6	111	34,362	4.7
Hennepin, MN	874,693	2.1	156	43,816	7.1
Olmsted, MN	82,670	3.9	39	36,104	3.1

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Ramsey, MN	332,929	1.6	196	39,069	5.8
St. Louis, MN	94,926	1.4	209	28,903	4.6
Stearns, MN	76,292	3.1	83	27,584	4.2
Harrison, MS	89,745	.4	274	25,442	4.8
Hinds, MS	136,949	-1.2	309	30,578	4.6
Boone, MO	75,785	2.8	98	27,361	3.1
Clay, MO	84,159	.0	290	32,207	6.4
Greene, MO	142,508	2.4	132	26,971	3.2
Jackson, MO	393,761	.4	275	36,056	6.2
St. Charles, MO	95,799	3.2	72	29,515	3.8
St. Louis, MO	646,858	.8	247	38,145	5.6
St. Louis City, MO	250,878	.4	276	38,612	4.1
Douglas, NE	330,128	2.1	157	32,356	4.1
Lancaster, NE	146,433	1.8	180	28,511	3.9
Clark, NV	697,575	5.3	15	32,131	3.4
Washoe, NV	189,102	3.2	73	32,748	4.4
Hillsborough, NH	193,796	2.7	105	39,212	9.1
Rockingham, NH	129,494	4.1	35	35,823	9.8
Atlantic, NJ	140,141	-.2	294	31,068	3.4
Bergen, NJ	448,513	.5	268	46,306	7.0
Burlington, NJ	180,165	.8	248	37,597	4.7
Camden, NJ	199,768	-1.1	307	35,130	3.2
Essex, NJ	363,942	1.6	197	44,653	3.5
Gloucester, NJ	86,667	.7	252	32,055	2.8
Hudson, NJ	238,388	3.4	59	47,427	10.2
Mercer, NJ	210,031	3.3	67	44,658	5.2
Middlesex, NJ	392,427	.6	260	46,487	5.8
Monmouth, NJ	233,285	2.5	123	39,695	5.4
Morris, NJ	275,499	2.8	99	60,487	19.0
Ocean, NJ	129,093	2.5	124	30,447	4.6
Passaic, NJ	177,364	.6	261	37,759	2.0
Somerset, NJ	173,571	4.1	36	54,781	5.1
Union, NJ	237,176	2.2	144	45,282	4.9
Bernalillo, NM	307,705	2.6	112	30,184	4.1
Albany, NY	230,962	1.4	210	35,795	6.1
Bronx, NY	212,982	2.2	145	32,850	2.7
Broome, NY	99,613	1.2	224	29,658	3.6
Dutchess, NY	109,949	1.9	173	36,065	2.2
Erie, NY	459,828	1.0	237	31,489	3.0
Kings, NY	441,916	2.3	137	30,760	3.7
Monroe, NY	399,602	.9	242	35,423	1.8
Nassau, NY	598,538	1.6	198	40,023	4.4
New York, NY	2,382,175	3.2	74	72,572	10.3
Niagara, NY	78,186	.2	286	31,112	3.7
Oneida, NY	110,684	1.4	211	27,300	3.4
Onondaga, NY	252,476	.7	253	32,499	3.4
Orange, NY	119,571	1.6	199	29,357	4.6
Queens, NY	480,676	1.3	220	34,986	4.4
Richmond, NY	88,245	1.9	174	32,149	4.2
Rockland, NY	106,361	1.4	212	37,264	4.3
Suffolk, NY	578,401	2.3	138	37,862	6.6
Westchester, NY	405,440	2.3	139	47,066	8.3
Buncombe, NC	106,036	.5	269	27,652	3.8
Catawba, NC	101,321	2.6	113	28,210	4.0
Cumberland, NC	109,858	1.2	225	26,112	3.9
Durham, NC	167,191	2.9	92	49,359	12.6
Forsyth, NC	181,619	1.8	181	34,011	6.3
Gaston, NC	77,176	-3.6	314	28,335	4.0
Guilford, NC	279,889	.6	262	32,216	2.5
Mecklenburg, NC	514,223	3.8	41	40,538	5.4
New Hanover, NC	87,019	.4	277	28,560	4.3
Wake, NC	383,705	3.3	68	35,377	7.4
Cass, ND	81,823	2.2	146	27,801	4.1
Butler, OH	126,189	2.6	114	31,502	1.7
Cuyahoga, OH	817,572	.9	243	36,520	4.2
Franklin, OH	701,913	2.2	147	34,970	4.6
Hamilton, OH	566,965	.8	249	37,598	3.9
Lake, OH	102,320	1.5	202	30,735	2.1
Lorain, OH	105,988	2.3	140	32,013	1.9
Lucas, OH	238,450	.6	263	32,255	2.3
Mahoning, OH	112,531	-.6	300	25,966	3.0
Montgomery, OH	303,352	.4	278	34,532	2.6
Stark, OH	175,535	1.7	191	28,505	2.1
Summit, OH	266,001	.4	279	32,735	4.2

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Trumbull, OH	94,382	-1.3	311	32,785	1.0
Oklahoma, OK	414,239	2.9	93	29,216	4.6
Tulsa, OK	340,671	2.5	125	31,157	3.7
Clackamas, OR	133,065	2.2	148	32,482	4.0
Lane, OR	139,710	1.1	233	27,877	3.5
Marion, OR	127,558	2.0	166	28,116	2.9
Multnomah, OR	453,274	2.1	158	36,796	6.2
Washington, OR	224,033	4.3	27	44,459	13.4
Allegheny, PA	711,068	1.2	226	36,727	2.5
Berks, PA	168,068	1.8	182	32,007	3.3
Bucks, PA	244,317	2.5	126	34,059	3.4
Chester, PA	216,777	2.5	127	43,762	6.9
Cumberland, PA	123,998	-1.3	312	32,811	3.2
Dauphin, PA	172,465	2.1	159	33,680	2.2
Delaware, PA	212,540	1.0	238	36,828	5.5
Erie, PA	131,700	2.5	128	28,368	1.8
Lackawanna, PA	98,383	-.7	303	27,663	7.5
Lancaster, PA	218,280	1.8	183	30,809	4.6
Lehigh, PA	171,175	2.0	167	35,274	2.5
Luzerne, PA	143,066	2.2	149	27,855	2.7
Montgomery, PA	481,011	2.3	141	43,810	6.5
Northampton, PA	87,846	3.0	89	30,767	3.1
Philadelphia, PA	668,793	1.5	203	39,700	4.5
Westmoreland, PA	134,436	1.0	239	27,992	1.3
York, PA	167,757	2.2	150	30,926	3.3
Providence, RI	290,809	1.7	192	33,410	4.0
Charleston, SC	182,793	1.3	221	27,680	4.8
Greenville, SC	233,062	2.6	115	31,281	4.0
Horry, SC	99,124	1.7	193	22,883	5.4
Lexington, SC	81,341	2.0	168	27,505	3.5
Richland, SC	207,508	.6	264	29,627	4.1
Spartanburg, SC	119,791	.5	270	30,596	3.4
Minnehaha, SD	105,837	3.2	75	28,212	3.7
Davidson, TN	434,901	1.5	204	34,863	5.4
Hamilton, TN	188,161	1.8	184	30,574	4.0
Knox, TN	202,688	3.4	60	30,090	4.1
Rutherford, TN	76,993	2.5	129	31,132	3.6
Shelby, TN	500,255	1.0	240	34,357	2.5
Bell, TX	87,850	2.1	160	25,193	4.1
Bexar, TX	648,942	2.2	151	29,923	5.2
Brazoria, TX	75,417	2.8	100	34,367	3.3
Cameron, TX	109,115	5.4	11	21,553	2.6
Collin, TX	167,956	5.9	10	40,509	5.8
Dallas, TX	1,567,626	4.2	30	44,381	7.7
Denton, TX	119,722	3.7	47	29,298	4.0
El Paso, TX	251,557	1.5	205	25,069	3.2
Fort Bend, TX	87,763	2.4	133	35,801	5.1
Galveston, TX	86,844	-1.0	306	29,518	4.0
Harris, TX	1,840,442	2.8	101	41,869	7.7
Hidalgo, TX	163,443	7.1	5	21,671	2.7
Jefferson, TX	120,815	1.1	234	31,277	.8
Lubbock, TX	115,422	1.9	175	26,297	6.3
Mc Lennan, TX	98,076	1.0	241	27,034	2.1
Montgomery, TX	76,865	5.0	21	32,119	9.7
Nueces, TX	142,309	.8	250	28,187	4.7
Potter, TX	75,572	.7	254	26,552	2.8
Smith, TX	83,353	2.8	102	29,509	3.6
Tarrant, TX	703,025	3.5	56	35,438	5.0
Travis, TX	538,193	5.1	17	41,332	7.0
Williamson, TX	76,588	9.5	2	50,415	-4.5
Davis, UT	84,640	3.2	76	27,711	7.2
Salt Lake, UT	531,240	2.6	116	32,192	5.0
Utah, UT	142,369	4.5	24	27,891	5.0
Weber, UT	86,404	.4	280	26,644	2.5
Chittenden, VT	95,343	5.1	18	34,288	4.2
Arlington, VA	157,906	4.1	37	52,846	7.1
Chesterfield, VA	107,932	2.1	161	31,880	3.5
Fairfax, VA	537,647	6.7	7	51,576	10.3
Henrico, VA	165,617	2.4	134	36,138	5.8
Loudoun, VA	87,265	11.9	1	54,141	3.6
Prince William, VA	78,209	4.3	28	28,986	5.5
Alexandria, VA	91,818	5.1	19	42,101	6.1
Chesapeake, VA	81,294	2.1	162	26,069	4.2
Newport News, VA	93,607	1.8	185	30,261	5.4
Norfolk, VA	145,197	.3	284	32,179	4.9

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Richmond, VA	166,923	1.4	213	38,635	5.1
Roanoke City, VA	75,894	3.0	90	29,487	4.6
Virginia Beach, VA	165,610	3.6	53	25,414	4.4
Clark, WA	113,910	1.5	206	32,163	6.0
King, WA	1,162,290	2.7	106	47,459	3.0
Pierce, WA	241,654	4.2	31	29,854	4.2
Snohomish, WA	209,557	-1.2	310	35,091	3.6
Spokane, WA	188,843	2.9	94	29,760	7.9
Thurston, WA	84,277	1.6	200	31,745	6.9
Yakima, WA	94,233	1.9	176	23,237	3.7
Kanawha, WV	112,920	.7	255	30,156	3.1
Brown, WI	142,359	2.1	163	31,538	2.9
Dane, WI	274,353	2.6	117	32,817	5.5
Milwaukee, WI	528,837	.5	271	34,744	3.1
Outagamie, WI	94,364	2.9	95	30,769	4.4
Racine, WI	79,160	-.9	305	32,536	-.6
Waukesha, WI	222,877	1.2	227	35,767	5.2
Winnebago, WI	90,256	2.2	152	33,622	2.7
San Juan, PR	327,187	3.8	42	21,312	3.5

[1] Includes areas not officially designated as counties. See Notes on Current Labor Statistics.

[2] Percent changes were computed from annual employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Rankings for percent change in employment are based on the 314 counties that are comparable over the year.

[4] Totals for the United States do not include data for Puerto Rico.

[5] Data are not available for release.

Note: Data pertain to workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. The 315 U.S. counties comprise 70.8 percent of the total covered workers in the United States

22. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Civilian noninstitutional population	192,805	194,838	196,814	198,584	200,591	203,133	205,220	207,753	209,699	211,864
Civilian labor force	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863	141,815
Labor force participation rate	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2	66.9
Employed	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208	135,073
Employment-population ratio	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5	63.8
Agriculture	3,247	3,115	3,409	3,440	3,443	3,399	3,378	3,281	3,305	3,144
Nonagricultural industries	115,245	117,144	119,651	121,460	123,264	126,159	128,085	130,207	131,903	131,929
Unemployed	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655	6,742
Unemployment rate	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.8
Not in the labor force	64,700	65,638	65,758	66,280	66,647	66,837	67,547	68,385	68,836	70,050

23. Annual data: Employment levels by industry

[In thousands]

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total employment	108,601	110,713	114,163	117,191	119,608	122,690	125,865	128,916	131,759	132,213
Private sector	89,956	91,872	95,036	97,885	100,189	103,133	106,042	108,709	111,079	111,341
Goods-producing	23,231	23,352	23,908	24,265	24,493	24,962	25,414	25,507	25,709	25,122
Mining	635	610	601	581	580	596	590	539	543	563
Construction	4,492	4,668	4,986	5,160	5,418	5,691	6,020	6,415	6,698	6,861
Manufacturing	18,104	18,075	18,321	18,524	18,495	18,675	18,805	18,552	18,469	17,698
Service-producing	85,370	87,361	90,256	92,925	95,115	97,727	100,451	103,409	106,050	107,092
Transportation and public utilities	5,718	5,811	5,984	6,132	6,253	6,408	6,611	6,834	7,019	7,070
Wholesale trade	5,997	5,981	6,162	6,378	6,482	6,648	6,800	6,911	7,024	7,014
Retail trade	19,356	19,773	20,507	21,187	21,597	21,966	22,295	22,848	23,307	23,488
Finance, insurance, and real estate	6,602	6,757	6,896	6,806	6,911	7,109	7,389	7,555	7,560	7,624
Services	29,052	30,197	31,579	33,117	34,454	36,040	37,533	39,055	40,460	41,024
Government	18,645	18,841	19,128	19,305	19,419	19,557	19,823	20,206	20,681	20,873
Federal	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669	2,777	2,616
State	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,709	4,785	4,880
Local	11,267	11,438	11,682	11,849	12,056	12,276	12,525	12,829	13,119	13,377

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

24. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Private sector:										
Average weekly hours	34.4	34.5	34.7	34.5	34.4	34.6	34.6	34.5	34.5	34.2
Average hourly earnings (in dollars)	10.57	10.83	11.12	11.43	11.82	12.28	12.78	13.24	13.75	14.33
Average weekly earnings (in dollars)	363.61	373.64	385.86	394.34	406.61	424.89	442.19	456.78	474.38	490.09
Mining:										
Average weekly hours	43.9	44.3	44.8	44.7	45.3	45.4	43.9	43.2	43.1	43.4
Average hourly earnings (in dollars)	14.54	14.60	14.88	15.30	15.62	16.15	16.91	17.05	17.24	17.65
Average weekly earnings (in dollars)	638.31	646.78	666.62	683.91	707.59	733.21	742.35	736.56	743.04	766.01
Construction:										
Average weekly hours	38.0	38.5	38.9	38.9	39.0	39.0	38.9	39.1	39.3	39.2
Average hourly earnings (in dollars)	14.15	14.38	14.73	15.09	15.47	16.04	16.61	17.19	17.88	18.33
Average weekly earnings (in dollars)	537.70	553.63	573.00	587.00	603.33	625.56	646.13	672.13	702.68	718.54
Manufacturing:										
Average weekly hours	41.0	41.4	42.0	41.6	41.6	42.0	41.7	41.7	41.6	40.7
Average hourly earnings (in dollars)	11.46	11.74	12.07	12.37	12.77	13.17	13.49	13.90	14.38	14.84
Average weekly earnings (in dollars)	469.86	486.04	506.94	514.59	531.23	553.14	562.53	579.63	598.21	603.99
Transportation and public utilities:										
Average weekly hours	38.3	39.3	39.7	39.4	39.6	39.7	39.5	38.7	38.6	38.1
Average hourly earnings (in dollars)	13.43	13.55	13.78	14.13	14.45	14.92	15.31	15.69	16.22	16.89
Average weekly earnings (in dollars)	514.37	532.52	547.07	556.72	572.22	592.32	604.75	607.20	626.09	643.51
Wholesale trade:										
Average weekly hours	38.2	38.2	38.4	38.3	38.3	38.4	38.3	38.3	38.5	38.2
Average hourly earnings (in dollars)	11.39	11.74	12.06	12.43	12.87	13.45	14.07	14.58	15.20	15.80
Average weekly earnings (in dollars)	435.10	448.47	463.10	476.07	492.92	516.48	538.88	558.80	585.20	603.56
Retail trade:										
Average weekly hours	28.8	28.8	28.9	28.8	28.8	28.9	29.0	29.0	28.9	28.8
Average hourly earnings (in dollars)	7.12	7.29	7.49	7.69	7.99	8.33	8.74	9.09	9.46	9.82
Average weekly earnings (in dollars)	205.06	209.95	216.46	221.47	230.11	240.74	253.46	263.61	273.39	282.82
Finance, insurance, and real estate:										
Average weekly hours	35.8	35.8	35.8	35.9	35.9	36.1	36.4	36.2	36.3	36.3
Average hourly earnings (in dollars)	10.82	11.35	11.83	12.32	12.80	13.34	14.07	14.62	15.07	15.83
Average weekly earnings (in dollars)	387.36	406.33	423.51	442.29	459.52	481.57	512.15	529.24	547.04	574.63
Services:										
Average weekly hours	32.5	32.5	32.5	32.4	32.4	32.6	32.6	32.6	32.7	32.7
Average hourly earnings (in dollars)	10.54	10.78	11.04	11.39	11.79	12.28	12.84	13.37	13.91	14.61
Average weekly earnings (in dollars)	342.55	350.35	358.80	369.04	382.00	400.33	418.58	435.86	454.86	477.75

25. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Civilian workers[2]	144.6	146.5	148.0	149.5	150.6	152.5	153.8	155.6	156.8	0.8	4.1
Workers, by occupational group:											
White-collar workers	146.3	148.4	149.9	151.5	152.5	154.4	156.0	157.7	158.9	.8	4.2
Professional specialty and technical	145.3	146.7	148.3	150.0	151.3	153.2	154.3	156.7	157.5	.5	4.1
Executive, administrative, and managerial	148.6	150.5	151.9	153.7	154.6	156.6	158.6	159.6	161.2	1.0	4.3
Administrative support, including clerical	146.1	148.6	150.1	151.8	152.8	155.3	156.8	158.8	160.0	.8	4.7
Blue-collar workers	140.6	142.7	144.1	145.6	146.5	148.2	149.3	151.1	152.0	.6	3.8
Service occupations	144.8	146.0	147.1	148.5	150.0	152.0	153.3	155.0	156.9	1.2	4.6
Workers, by industry division:											
Goods-producing	142.5	144.9	146.6	148.0	148.8	150.7	152.2	153.3	154.4	.8	3.8
Manufacturing	143.6	146.0	147.5	148.7	149.3	151.3	152.6	153.3	154.6	.8	3.5
Service-producing	145.3	147.1	148.4	150.1	151.1	153.0	155.4	156.4	157.6	.8	4.3
Services	146.5	148.0	149.3	151.2	152.4	154.3	155.4	158.1	159.0	.6	4.3
Health services	144.3	145.9	147.5	149.0	150.7	152.5	154.6	156.7	158.3	1.0	5.0
Hospitals	145.0	146.3	147.7	149.5	151.3	153.2	155.6	158.2	160.0	1.1	5.8
Educational services	145.8	146.5	146.8	149.7	150.6	151.7	152.2	156.1	156.6	.3	4.0
Public administration[3]	144.4	145.7	146.1	146.9	148.3	150.6	151.9	153.8	155.2	.9	4.7
Nonmanufacturing	144.7	146.6	148.0	149.6	150.7	152.6	154.0	156.0	157.2	.8	4.3
Private industry workers	144.6	146.8	148.5	149.9	150.9	153.0	154.5	155.9	157.2	.8	4.2
Excluding sales occupations	144.5	146.5	148.2	149.8	150.9	153.0	154.4	156.0	160.9	1.0	4.2
Workers, by occupational group:											
White-collar workers	146.9	149.3	151.1	152.6	153.6	155.7	157.4	158.7	160.1	.8	4.2
Excluding sales occupations	147.3	149.4	151.3	152.9	154.1	156.5	158.1	159.6	160.9	.8	4.4
Professional specialty and technical occupations	146.7	148.4	150.7	152.2	153.7	156.3	157.5	159.2	160.3	.7	4.3
Executive, administrative, and managerial occupations	149.1	151.1	152.7	154.4	155.3	157.3	159.4	160.2	161.8	1.0	4.2
Sales occupations	145.3	148.9	150.3	151.2	151.4	152.3	154.5	155.0	156.7	1.1	3.5
Administrative support occupations, including clerical	146.2	149.0	150.6	152.3	153.4	156.1	157.7	159.5	160.8	.8	4.8
Blue-collar workers	140.5	142.6	144.1	145.5	146.4	148.2	149.3	151.0	151.9	.6	3.8
Precision production, craft, and repair occupations	140.6	142.3	144.1	145.8	146.7	148.7	149.7	151.8	152.5	.5	4.0
Machine operators, assemblers, and inspectors	141.4	144.0	145.0	146.0	146.8	148.3	149.1	150.4	151.5	.7	3.2
Transportation and material moving occupations	135.2	137.5	138.6	139.9	141.1	142.6	143.9	145.6	146.3	.5	3.7
Handlers, equipment cleaners, helpers, and laborers	144.4	146.4	148.1	149.4	150.4	152.2	153.4	154.9	156.5	1.0	4.1
Service occupations	142.6	143.9	145.4	146.6	148.1	150.0	151.3	152.6	154.8	1.4	4.5
Production and nonsupervisory occupations[4]	143.1	145.3	146.9	148.4	149.5	151.4	152.7	154.3	155.5	.8	4.0
Workers, by industry division:											
Goods-producing	142.5	144.8	146.6	147.9	148.8	150.7	152.1	153.1	154.4	.8	3.8
Excluding sales occupations	141.8	144.2	145.9	147.2	148.2	150.1	151.5	152.5	153.7	.8	3.7
White-collar occupations	145.5	148.1	150.1	151.3	151.9	154.5	156.5	156.8	158.1	.8	4.1
Excluding sales occupations	143.9	146.5	148.4	149.6	150.5	153.0	155.0	155.3	156.5	.8	4.0
Blue-collar occupations	140.7	142.8	144.4	145.8	146.8	148.2	149.3	150.8	151.9	.7	3.5
Construction	138.7	140.8	143.2	145.1	146.7	148.2	150.3	151.7	153.0	.9	4.3
Manufacturing	143.6	146.0	147.5	148.7	149.3	151.3	152.6	152.2	154.6	.8	3.5
White-collar occupations	145.8	148.2	150.2	151.4	151.5	154.2	156.0	156.0	156.9	.6	3.6
Excluding sales occupations	143.8	146.2	148.2	149.3	149.7	152.2	154.0	153.8	154.5	.6	3.3
Blue-collar occupations	142.1	144.4	145.6	146.7	147.8	149.1	150.0	151.3	152.7	.9	3.3
Durables	144.0	146.5	148.3	149.4	150.1	151.8	153.1	154.0	155.3	.8	3.5
Nondurables	142.8	144.9	146.0	147.5	147.7	150.4	151.6	152.0	153.2	.8	3.7
Service-producing	145.3	147.4	149.1	150.6	151.7	153.8	155.3	156.9	158.2	.8	4.3
Excluding sales occupations	145.9	147.7	149.4	151.1	152.2	154.6	156.0	157.8	159.0	.8	4.5
White-collar occupations	147.0	149.3	151.0	152.6	153.7	155.8	157.4	159.0	160.3	.8	4.3
Excluding sales occupations	148.3	150.3	152.1	153.9	155.1	157.5	159.1	160.9	162.2	.8	4.6
Blue-collar occupations	139.8	141.8	143.1	144.5	145.3	147.7	148.7	150.9	151.0	.3	4.2
Service occupations	142.4	143.6	145.1	146.3	147.9	149.6	150.8	152.2	154.2	1.3	4.3
Transportation and public utilities	142.3	143.9	145.7	147.4	148.3	150.5	152.4	153.5	155.5	1.3	4.9
Transportation	139.5	140.4	141.8	142.8	143.9	145.4	146.9	148.2	151.1	2.0	5.0
Public utilities	146.1	148.6	150.9	153.5	154.1	157.3	159.8	160.7	161.5	.5	4.8
Communications	146.0	148.4	150.9	153.9	154.7	158.3	161.1	162.8	163.4	.4	5.6
Electric, gas, and sanitary services	146.1	148.9	151.0	152.9	153.4	156.0	158.1	158.1	159.1	.6	3.7
Wholesale and retail trade	143.5	145.6	147.3	148.3	149.4	151.0	152.6	153.7	155.5	1.2	4.1
Excluding sales occupations	144.3	146.4	148.1	149.6	150.6	152.6	153.9	155.4	–	–	–
Wholesale trade	148.5	150.0	151.8	152.1	154.4	155.1	157.8	158.6	159.5	.6	3.3
Excluding sales occupations	147.4	149.6	151.1	152.7	154.9	156.9	158.5	160.0	160.6	.4	3.7
Retail trade	140.7	143.2	144.8	146.2	146.6	148.7	149.7	150.9	153.2	1.5	4.5
General merchandise stores	138.3	139.7	141.0	142.2	144.4	147.3	149.4	149.7	150.9	.8	4.5
Food stores	138.1	140.1	142.5	143.4	144.5	146.1	148.2	149.7	151.7	1.3	5.0

See footnotes at end of table.

25. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Finance, insurance, and real estate	148.3	152.0	153.1	155.2	155.7	157.9	159.5	160.9	161,3	0.2	3.6
Excluding sales occupations	151.6	154.2	155.5	157.4	158.4	161.2	163.1	164.7	165.0	.2	4.2
Banking, savings and loan, and other credit agencies	159.8	162.7	164.2	165.8	166.5	170.8	172.7	175.4	174.5	–.6.	4.7
Insurance	145.8	149.9	151.3	154.8	155.2	157.6	159.3	159.9	161.3	.9	3.9
Services	147.6	149.4	151.2	152.9	154.1	156.5	157.8	160.0	161.0	.6	4.5
Business services	151.9	154.2	156.3	157.5	158.4	160.5	163.0	165.2	166.2	.6	4.9
Health services	144.2	145.8	147.5	149.0	150.6	152.7	154.7	156.8	158.4	1.0	5.2
Hospitals	144.6	145.8	147.5	149.2	151.1	153.5	155.9	158.4	160.3	1.2	6.1
Educational services	153.0	154.0	154.9	158.8	159.9	162.3	162.6	166.4	167.6	.7	4.8
Colleges and universities	153.3	154.6	155.5	158.6	159.2	162.2	162.6	166.2	167.5	.8	5.2
Nonmanufacturing	144.5	146.7	148.4	150.0	151.1	153.1	154.7	156.3	157.6	.8	4.3
White-collar workers	146.9	149.2	151.0	152.6	153.7	155.8	157.5	159.0	160.5	.9	4.4
Excluding sales occupations	148.1	150.2	152.0	153.8	155.1	157.5	159.1	160.9	162.3	.9	4.6
Blue-collar occupations	138.7	140.6	142.3	143.9	144.8	146.9	148.1	150.2	150.6	.3	4.0
Service occupations	142.3	143.5	145.1	146.3	147.8	149.5	150.7	152.1	154.1	1.3	4.3
State and local government workers	144.6	145.5	145.9	147.8	148.9	150.3	151.2	154.3	155.2	.6	4.2
Workers, by occupational group:											
White-collar workers	144.0	144.9	145.3	147.3	148.3	149.5	150.4	153.7	154.4	.5	4.1
Professional specialty and technical	143.2	144.1	144.5	146.6	147.4	148.4	149.2	152.8	153.2	.3	3.9
Executive, administrative, and managerial	146.1	147.0	147.2	149.2	150.7	152.4	153.7	156.4	157.6	.8	4.6
Administrative support, including clerical	145.0	145.9	146.5	148.3	149.4	150.7	151.6	154.2	155.6	.9	4.1
Blue-collar workers	142.5	143.7	144.2	145.9	147.2	148.6	149.0	151.5	153.2	1.1	4.1
Workers, by industry division:											
Services	144.5	145.2	145.5	148.0	148.9	149.9	150.6	154.4	154.9	1.0	4.0
Services excluding schools[5]	143.8	145.2	145.8	147.6	148.8	150.1	151.9	154.5	156.1	.3	4.9
Health services	145.8	147.3	147.9	150.0	151.6	152.1	154.4	157.1	158.5	1.0	4.6
Hospitals	146.3	147.9	148.4	150.7	152.0	152.2	154.7	157.4	159.1	1.0	6.7
Educational services	144.4	145.0	145.2	147.9	148.7	149.6	150.1	154.1	154.5	1.1	4.2
Schools	144.7	145.3	145.5	148.2	149.0	149.9	150.5	154.4	154.8	.3	3.9
Elementary and secondary	144.1	144.5	144.7	147.3	148.1	148.5	149.0	152.8	153.1	.3	3.4
Colleges and universities	146.5	147.4	147.6	150.5	151.7	153.7	154.3	153.8	159.6	.4	5.2
Public administration[3]	144.4	145.7	146.1	146.9	148.3	150.6	151.9	151.9	155.2	.9	4.7

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

26. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1989 = 100)

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Civilian workers[1]	142.5	144.0	145.4	147.0	147.9	149.5	150.8	152.3	153.4	0.7	3.7
Workers, by occupational group:											
White-collar workers	144.6	146.2	147.6	149.2	150.2	151.7	153.1	154.5	155.6	.7	3.6
Professional specialty and technical	144.0	144.9	146.4	148.3	149.6	151.1	152.-	154.2	155.1	.6	3.7
Executive, administrative, and managerial	147.2	148.6	149.9	151.6	152.4	154.0	155.8	156.7	158.1	.9	3.7
Administrative support, including clerical	143.5	145.5	146.9	148.5	149.6	151.6	152,7	154.6	155.7	.7	4.1
Blue-collar workers	137.9	139.2	140.6	142.0	142.9	144.7	146.0	147.6	148.5	.6	3.9
Service occupations	141.7	143.0	144.0	145.7	147.1	148.6	149.7	151.2	153.0	1.2	4.0
Workers, by industry division:											
Goods-producing	139.7	141.3	143.0	144.3	145.3	147.0	147,6	149.5	150.5	.7	3.6
Manufacturing	141.5	142.9	144.4	145.7	146.5	148.5	150.0	150.7	151.7	.7	3.5
Service-producing	143.5	145.0	146.3	148.0	148.9	150.5	151.7	153.4	154.5	.7	3.6
Services	145.5	146.6	147.9	149.9	151.0	152.6	153.6	156.2	157.1	.6	4.0
Health services	142.5	143.8	145.3	146.7	148.3	149.8	151.8	153.7	155.5	1.2	4.9
Hospitals	141.6	142.6	143.8	145.6	147.3	148.8	151.2	15.5	155.5	1.3	5.6
Educational services	144.7	145.3	145.6	148.9	149.6	150.5	151.0	154.6	155.1	.3	3.7
Public administration[2]	141.5	142.5	142.9	144.6	146.1	147.6	148.7	150.3	151.6	.9	3.8
Nonmanufacturing	142.6	144.2	145.5	147.2	148.1	149.7	149.7	152.6	153.8	.8	3.8
Private industry workers	142.2	143.9	145.4	146.8	147.7	149.4	150.9	152.1	153.3	.8	3.8
Excluding sales occupations	142.0	143.5	145.1	146.5	147.6	149.5	150.8	152.2	153.3	.7	3.9
Workers, by occupational group:											
White-collar workers	144.8	146.6	148.3	149.7	150.6	152.3	153.8	154.8	156.1	.8	3.7
Excluding sales occupations	145.2	146.7	148.5	149.9	151.1	153.0	154.4	155.7	156.9	.8	3.8
Professional specialty and technical occupations	144.1	145.1	147.3	148.6	150.2	152.1	153.2	154.8	155.9	.7	3.8
Executive, administrative, and managerial occupations	147.6	149.2	150.7	152.3	153.0	154.7	156.5	157.2	158.6	.9	3.7
Sales occupations	143.3	146.7	147.9	149.0	148.7	149.2	151.5	151.2	152.6	.9	2.6
Administrative support occupations, including clerical	143.8	146.0	147.5	149.1	150.1	152.3	153.6	155.3	156.5	.8	4.3
Blue-collar workers	137.7	139.1	140.5	141.9	142.8	144.6	145.9	147.5	148.3	.5	3.9
Precision production, craft, and repair occupations	137.5	138.9	140.6	142.0	142.8	144.6	145.7	147.7	148,4	.5	3.9
Machine operators, assemblers, and inspectors	139.5	140.7	141.6	142.9	143.7	145.6	146.9	148.1	149.0	.6	3.7
Transportation and material moving occupations	132.7	134.1	135.2	136.5	137.6	139.5	140.7	142.1	142.8	.5	3.8
Handlers, equipment cleaners, helpers, and laborers	140.4	141.8	143.6	145.0	146.2	148.0	149.8	151.0	152.4	.9	4.2
Service occupations	139.6	141.0	142.5	143.5	144.9	146.4	147.5	148.7	150.6	1.3	3.9
Production and nonsupervisory occupations[3]	140.4	142.1	143.7	145.0	146.0	147.7	149.0	150.3	151.5	.8	3.8
Workers, by industry division:											
Goods-producing	139.7	141.3	143.0	144.3	145.2	147.0	148.6	149.5	150.5	.7	3.7
Excluding sales occupations	138.9	140.5	142.1	143.4	144.6	146.3	147.8	148.7	149.7	.7	3.5
White-collar occupations	143.0	145.0	146.8	147.9	148.7	150.5	152.3	152.6	153.6	.7	3.3
Excluding sales occupations	141.3	143.2	144.9	146.0	147.2	148.9	150.5	150.8	151.7	.6	3.1
Blue-collar occupations	137.6	139.0	140.5	142.0	143.1	144.7	146.1	147.4	148.4	.7	3.7
Construction	133.6	136.0	138.0	139.4	140.7	142.1	143.9	145.1	146.3	.8	4.0
Manufacturing	141.5	142.9	144.4	145.7	146.5	148.5	150.0	150.7	151.7	.7	3.5
White-collar occupations	144.0	145.8	147.7	148.7	149.2	151.1	152.7	152.8	153.3	.3	2.7
Excluding sales occupations	142.0	143.7	145.6	146.6	147.5	149.9	150.5	150.5	151.0	.3	2.4
Blue-collar occupations	139.7	140.8	142.0	143.4	144.6	146.4	147.8	149.1	150.3	.8	3.9
Durables	141.8	143.0	144.7	146.1	147.3	149.0	150.5	151.5	152.6	.7	3.6
Nondurables	140.9	142.7	143.9	145.0	145.4	147.5	149.0	149.3	150.2	.6	3.3
Service-producing	143.3	145.0	146.5	147.9	148.9	150.5	151.9	153.2	154.5	.8	3.8
Excluding sales occupations	143.8	145.3	146.9	148.3	149.4	151.3	152.6	154.2	155.5	.8	4.1
White-collar occupations	145.0	146.9	148.5	150.0	150.9	152.5	154.0	155.2	156.5	.8	3.7
Excluding sales occupations	146.4	147.8	149.6	151.2	152.3	154.3	155.6	157.2	158.6	.9	4.1
Blue-collar occupations	137.8	139.1	140.3	141.6	142.2	144.3	145.3	147.5	148.1	.4	4.1
Service occupations	139.6	141.1	142.5	143.5	144.8	146.1	147.2	148.4	150.2	1.2	3.7
Transportation and public utilities	137.9	138.5	140.0	141.3	142.3	143.7	145.7	146.7	149.2	1.7	4.8
Transportation	134.9	134.9	136.2	137.4	138.6	139.8	141.6	142.6	145.7	2.2	5.1
Public utilities	141.8	143.2	144.9	146.4	147.1	148.7	151.0	152.0	153.6	1.1	4.4
Communications	142.2	143.4	145.0	146.7	147.4	149.2	151.8	153.3	155.2	1.2	5.3
Electric, gas, and sanitary services	141.3	143.0	144.7	145.9	146.6	148.1	149.9	150.4	151.7	.9	3.5
Wholesale and retail trade	142.0	143.8	145.5	146.4	147.4	148.4	150.1	150.6	152.1	1.0	3.2
Excluding sales occupations	143.3	145.2	146.8	148.2	149.0	150.7	151.9	153.1	–	–	–
Wholesale trade	146.5	147.4	149.4	149.6	151.6	151.6	154.5	154.1	154.8	.5	2.1
Excluding sales occupations	146.4	147.9	149.7	151.3	153.2	154.9	156.5	157.4	157.9	.3	3.1
Retail trade	139.6	142.1	143.5	144.8	145.2	146.9	147.8	148.8	150.7	1.3	2.8
General merchandise stores	136.7	137.8	138.5	139.7	142.2	143.8	145.5	145.7	146.5	.5	3.0
Food stores	134.9	136.7	139.5	140.2	141.6	143.3	144.5	145.7	146.7	.7	3.6

See footnotes at end of table.

26. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Finance, insurance, and real estate	145.2	148.7	149.5	151.7	151.7	153.9	154.6	155.8	156.0	0.1	2.
Excluding sales occupations	148.0	150.2	151.5	153.3	154.1	156.6	157.6	159.1	159.1	.0	3.
Banking, savings and loan, and other credit agencies	159.6	162.0	163.3	165.0	165.7	169.4	170.8	173.2	171.7	–.9	3.
Insurance	141.5	145.5	146.6	150.7	150.8	152.4	153.3	153.6	155.0	.9	2.
Services	146.0	147.4	149.1	150.6	151.8	153.8	155.0	157.1	158.2	.7	4.
Business services	149.8	152.0	154.1	155.3	156.0	158.2	160.8	162.8	163.7	.6	4.
Health services	142.2	143.5	145.3	146.6	148.1	149.8	151.8	153.6	155.4	1.2	4.
Hospitals	140.9	141.8	143.3	144.9	146.8	148.5	151.0	153.3	155.4	1.4	5.
Educational services	148.2	148.9	149.6	153.4	154.3	155.4	156.1	159.6	160.5	.6	4.
Colleges and universities	147.9	148.9	149.4	152.5	152.9	154.1	155.0	158.4	159.6	.8	4.
Nonmanufacturing	142.1	143.9	145.5	146.9	147.9	149.5	150.9	152.2	153.5	.9	3.
White-collar workers	144.7	146.5	148.2	149.6	150.6	152.3	153.8	155.0	156.4	.9	3.
Excluding sales occupations	145.9	147.4	149.1	150.7	151.9	153.9	155.3	156.9	158.3	.9	4.
Blue-collar occupations	135.8	137.4	138.9	140.3	140.9	142.8	143.9	145.8	146.4	.4	3.
Service occupations	139.5	140.9	142.4	143.4	144.7	146.0	147.1	148.2	150.1	1.3	3.
State and local government workers	143.5	144.3	144.7	147.2	148.3	150.2	151.2	154.3	155.2	.5	3.
Workers, by occupational group:											
White-collar workers	143.4	144.1	144.5	147.1	148.0	149.0	149.8	152.7	153.3	.4	3.
Professional specialty and technical	143.6	144.3	144.7	147.4	148.2	149.1	149.8	153.0	153.4	.3	3.
Executive, administrative, and managerial	144.3	144.9	145.1	147.3	148.8	150.1	151.5	153.9	155.1	.8	4.
Administrative support, including clerical	141.7	142.4	143.0	145.0	146.2	147.0	147.6	149.8	150.9	.7	3.
Blue-collar workers	140.7	141.5	142.1	143.9	145.1	146.0	146.5	149.1	150.8	1.1	3.
Workers, by industry division:											
Services	144.0	144.6	144.9	147.9	148.7	149.5	150.2	153.7	154.2	.3	3.
Services excluding schools[4]	143.2	144.3	144.8	146.7	147.9	149.1	150.7	153.2	154.9	1.1	4.
Health services	144.2	145.3	145.7	147.7	149.3	149.9	151.9	154.2	155.8	1.0	4.
Hospitals	144.1	145.3	145.6	147.7	149.2	149.5	151.8	154.2	155.7	1.0	4.
Educational services	144.0	144.5	144.8	148.0	148.7	149.5	150.0	153.6	154.0	.3	3.
Schools	144.2	144.7	144.9	148.1	148.9	149.7	150.2	153.8	154.1	.2	3.
Elementary and secondary	144.1	144.5	144.6	147.9	148.5	149.0	149.5	152.8	153.1	.2	3.
Colleges and universities	144.4	144.9	145.6	148.3	149.5	151.4	151.8	156.5	156.7	.1	4.
Public administration[2]	141.5	142.5	142.9	144.6	146.1	147.6	148.7	150.3	151.6	.9	3.

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

27. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec.	
Private industry workers	150.2	153.8	155.7	157.5	158.6	161.5	163.2	165.2	166.7	0.9	5.1
Workers, by occupational group:											
White-collar workers	152.5	156.3	158.5	160.4	161.5	165.2	167.4	169.5	171.2	1.0	6.0
Blue-collar workers	146.2	150.0	151.6	153.1	154.1	155.7	156.7	158.3	159.2	.6	3.3
Workers, by industry division:											
Goods-producing	148.2	152.3	154.2	155.7	156.2	158.5	159.6	160.8	162.6	1.1	4.1
Service-producing	150.7	154.0	156.0	157.9	159.4	162.6	164.6	167.1	168.4	.8	5.6
Manufacturing	147.8	152.3	153.9	154.9	154.8	157.1	157.9	158.5	160.4	1.2	3.6
Nonmanufacturing	150.7	154.0	156.1	158.1	159.7	162.9	164.9	167.4	168.6	.8	5.7

28. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended Dec. 2001	12 months ended Dec. 2001
COMPENSATION											
Workers, by bargaining status[1]											
Union	141.2	143.0	144.4	146.1	146.9	147.9	149.5	151.0	153.1	1.4	4.2
Goods-producing	140.8	143.3	144.8	146.8	147.3	147.9	149.3	150.6	151.6	.8	3.1
Service-producing	141.4	142.5	143.9	145.2	146.4	147.6	149.5	151.2	154.2	2.0	5.3
Manufacturing	141.0	144.5	145.4	147.1	147.4	147.9	148.8	149.9	151.4	1.0	2.7
Nonmanufacturing	140.8	141.7	143.4	145.0	146.2	147.3	149.4	151.1	153.5	1.6	5.0
Nonunion	145.2	147.4	149.1	150.6	151.6	153.8	155.3	156.7	157.8	.7	4.1
Goods-producing	143.1	145.4	147.2	148.4	149.3	151.6	153.1	154.0	155.3	.8	4.0
Service-producing	145.7	148.0	149.6	151.2	152.3	154.4	155.9	157.5	158.6	.7	4.1
Manufacturing	144.4	146.5	148.2	149.2	149.9	152.4	153.7	154.4	155.5	.7	3.7
Nonmanufacturing	145.1	147.4	149.1	150.7	151.8	153.9	155.4	157.0	158.2	.8	4.2
Workers, by region[1]											
Northeast	144.3	146.3	147.6	149.3	150.3	151.6	153.7	155.2	156.3	.7	4.0
South	143.0	145.0	146.7	147.6	148.6	151.1	152.3	153.5	154.6	.7	4.0
Midwest (formerly North Central)	146.3	148.9	150.7	152.2	153.3	154.8	156.0	157.4	158.6	.8	3.5
West	144.7	147.0	148.8	150.8	151.8	154.3	156.0	157.6	159.4	1.1	5.0
Workers, by area size[1]											
Metropolitan areas	144.7	146.9	148.6	150.1	151.0	153.1	154.6	156.0	157.4	.9	4.2
Other areas	143.6	146.0	147.7	148.8	150.3	152.1	153.7	154.8	155.6	.5	3.5
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	136.5	137.2	138.5	140.0	141.2	142.1	143.7	145.1	147.4	1.6	4.4
Goods-producing	136.1	137.2	138.4	140.2	141.3	142.4	144.2	145.3	146.3	.7	3.5
Service-producing	137.2	137.6	138.9	140.1	141.5	142.2	143.7	145.4	148.9	2.4	5.2
Manufacturing	137.5	138.8	139.7	141.4	142.6	143.9	145.5	146.7	148.0	.9	3.8
Nonmanufacturing	135.9	136.4	137.8	139.2	140.4	141.1	142.7	144.3	147.1	1.9	4.8
Nonunion	143.3	145.1	146.7	148.1	149.0	150.8	152.2	153.4	154.4	.7	3.6
Goods-producing	141.1	142.9	144.7	145.8	146.8	148.8	150.3	151.1	152.1	.7	3.6
Service-producing	143.9	145.8	147.3	148.7	149.6	151.4	152.7	154.1	155.1	.6	3.7
Manufacturing	142.9	144.4	146.1	147.2	148.0	150.1	151.6	152.2	153.1	.6	3.4
Nonmanufacturing	143.0	145.0	146.6	148.0	148.9	150.7	152.0	153.3	154.4	.7	3.7
Workers, by region[1]											
Northeast	140.9	142.3	143.7	145.3	146.0	147.3	149.2	150.6	151.7	.7	3.9
South	141.5	143.0	144.6	145.3	146.3	148.3	149.3	150.2	151.2	.7	3.3
Midwest (formerly North Central)	143.6	145.3	147.1	148.6	149.6	150.9	152.3	153.6	154.7	.7	3.4
West	142.6	144.7	146.3	148.2	149.2	151.3	152.9	154.3	156.0	1.1	4.6
Workers, by area size[1]											
Metropolitan areas	142.5	144.1	145.7	147.1	148.0	149.8	151.2	152.4	153.7	.9	3.9
Other areas	140.2	142.2	143.7	144.7	146.0	147.4	148.8	149.7	150.5	.5	3.1

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

29. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time	10	9	9	10	11	10	8	9	–	–
Average minutes per day	–	25	26	27	29	26	30	29	–	–
Paid rest time	75	76	73	72	72	71	67	68	–	–
Average minutes per day	–	25	26	26	26	26	28	26	–	–
Paid funeral leave	–	–	–	88	85	84	80	83	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	–
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

30. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708
Time-off plans								
Participants with:								
Paid lunch time	8	9	–	–	17	11	10	–
Average minutes per day	37	37	–	–	34	36	34	–
Paid rest time	48	49	–	–	58	56	53	–
Average minutes per day	27	26	–	–	29	29	29	–
Paid funeral leave	47	50	50	51	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	14	38	39	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	86	72	67	67	66
Paid sick leave [2]	47	53	50	50	97	95	95	94
Unpaid leave	17	18	–	–	57	51	59	–
Unpaid paternity leave	8	7	–	–	30	33	44	–
Unpaid family leave	–	–	47	48	–	–	–	93
Insurance plans								
Participants in medical care plans	69	71	66	64	93	93	90	87
Percent of participants with coverage for:								
Home health care	79	80	–	–	76	82	87	84
Extended care facilities	83	84	–	–	78	79	84	81
Physical exam	26	28	–	–	36	36	47	55
Percent of participants with employee contribution required for:								
Self coverage	42	47	52	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	75	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	1	2
Retiree protection available	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21
Participants in short-term disability plans [2]	–	–	–	29	–	–	–	–
Retirement plans								
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65	54	50	–	47	92	89	92	92
Early retirement available	95	95	–	92	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13
Terminal earnings formula	58	54	–	53	100	100	100	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	49
Participants in defined contribution plans	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans	1	2	3	4	5	5	5	5
Reimbursement accounts [3]	8	14	19	12	5	31	50	64
Premium conversion plans	–	–	–	7	–	–	–	–

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[3] Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

31. Work stoppages involving 1,000 workers or more

Measure	2000	2001	2000	2001										
			Dec.	Jan.[P]	Feb.[P]	Mar.[P]	Apr.[P]	May[P]	June[P]	July[P]	Aug.[P]	Sept.[P]	Oct.[P]	Nov.[P]	Dec.[P]
Number of stoppages:															
Beginning in period	39	29	0	1	1	3	4	7	3	2	3	2	1	0	2
In effect during period	40	30	3	2	1	4	5	8	5	3	4	3	4	1	2
Workers involved:															
Beginning in period (in thousands)	394	99	8.7	2.0	1.2	7.8	19.4	22.1	4.7	2.2	5.8	3.0	24.9	.0	6.0
In effect during period (in thousands)	397	102	10.3	4.7	1.2	9.0	20.7	23.4	9.0	3.3	6.9	4.1	29.0	1.6	6.0
Days idle:															
Number (in thousands)	20,419	1,151	58.9	37.1	3.6	33.4	230.5	201.6	73.2	62.1	71.5	55.7	316.4	11.2	55.0
Percent of estimated working time[1]	.06	.00	([2])	([2])	([2])	([2])	.01	.01	([2])	([2])	([2])	([2])	.01	([2])	([2])

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[2] Less than 0.005.

[P] = preliminary.

NOTE: Dash indicates data not available.

32. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	172.2	177.1	175.1	175.8	176.2	176.9	177.7	178.0	177.5	177.5	178.3	177.7	177.4	176.7	177.1
All items (1967 = 100)	515.8	530.4	524.5	526.7	528.0	529.9	532.2	533.3	531.6	531.8	534.0	532.2	531.3	5292.0	530.6
Food and beverages	168.4	173.6	171.4	171.8	172.2	172.4	172.9	173.4	174.0	174.4	174.6	175.3	175.2	175.2	176.2
Food	167.8	173.1	170.9	171.3	171.7	171.9	172.5	173.0	173.5	173.9	174.1	174.9	174.6	174.7	175.8
Food at home	167.9	173.4	171.3	171.8	172.0	172.2	172.8	173.3	173.9	174.2	174.3	175.2	174.7	174.7	176.2
Cereals and bakery products	188.3	193.8	191.1	191.9	191.9	192.5	193.2	194.2	194.9	195.9	195.1	195.2	194.9	195.3	196.7
Meats, poultry, fish, and eggs	154.5	161.3	158.0	159.5	160.1	160.7	160.8	161.7	162.3	162.4	162.4	163.5	162.7	162.0	162.1
Dairy and related products[1]	160.7	167.1	163.6	163.6	163.2	163.4	164.7	166.9	168.3	168.9	169.4	170.8	171.2	170.8	169.9
Fruits and vegetables	204.6	212.2	212.6	211.5	211.5	213.3	213.1	211.8	210.7	208.8	212.1	213.5	212.9	214.4	224.8
Nonalcoholic beverages and beverage materials	137.8	139.2	139.4	139.9	139.5	138.9	138.1	138.6	138.9	140.0	139.2	139.9	139.5	18.5	139.5
Other foods at home	155.6	159.6	157.8	157.9	158.6	157.6	159.6	159.5	160.4	161.0	160.2	160.9	160.3	160.9	161.3
Sugar and sweets	154.0	155.7	155.7	155.8	155.7	154.0	155.8	155.7	156.1	156.1	156.6	156.4	154.9	156.1	158.4
Fats and oils	147.4	155.7	153.0	152.6	153.1	151.5	154.7	156.7	157.8	158.5	158.5	159.5	155.6	156.9	158.9
Other foods	172.2	176.0	173.8	174.0	175.1	174.4	176.4	175.7	176.8	177.6	176.2	177.0	177.6	177.9	177.4
Other miscellaneous foods[1,2]	107.5	108.9	109.0	108.7	108.4	108.5	108.8	107.7	109.6	109.5	108.9	108.9	110.6	108.5	108.8
Food away from home[1]	169.0	173.9	171.4	171.8	172.3	172.7	173.1	173.6	174.1	174.7	175.1	175.6	175.8	176.0	176.4
Other food away from home[1,2]	109.0	113.4	111.3	111.4	111.6	111.8	112.4	112.6	113.8	114.3	115.3	115.4	115.5	115.5	115.5
Alcoholic beverages	174.7	179.3	177.2	177.7	177.8	178.1	178.5	179.1	179.7	180.0	180.4	180.8	181.2	180.9	181.8
Housing	169.6	176.4	174.1	174.7	175.4	175.4	175.9	177.3	177.6	178.0	177.4	176.7	176.9	176.9	177.6
Shelter	193.4	200.6	196.4	197.6	198.9	199.2	199.6	200.7	201.4	202.4	202.0	202.4	202.9	203.2	204.5
Rent of primary residence	183.9	192.1	188.2	188.9	189.6	190.2	191.0	191.6	192.3	193.1	193.9	194.7	195.5	196.4	197.0
Lodging away from home	117.5	118.6	114.1	119.1	124.2	121.8	120.0	123.7	124.0	125.2	116.8	114.5	111.6	108.0	113.1
Owners' equivalent rent of primary residence[3]	198.7	206.3	202.4	105.4	203.6	204.2	204.9	205.7	206.3	207.3	208.1	209.0	210.1	210.9	211.8
Tenants' and household insurance[1,2]	103.7	106.2	105.0	105.1	105.4	105.5	106.8	107.0	106.6	106.6	106.7	106.9	106.9	106.3	106.4
Fuels and utilities	137.9	150.2	153.8	152.3	150.8	149.7	151.3	155.7	154.8	152.7	150.6	144.6	143.5	142.2	141.5
Fuels	122.8	135.4	139.8	138.0	136.3	135.1	136.8	141.6	140.5	138.0	135.7	129.1	127.8	126.2	125.3
Fuel oil and other fuels	129.7	129.3	149.1	144.6	138.1	134.4	131.9	129.6	123.8	122.1	125.3	121.5	118.3	112.7	112.9
Gas (piped) and electricity	128.0	142.4	145.7	144.0	142.6	141.6	143.8	149.4	148.6	146.0	143.1	135.9	134.7	133.5	132.4
Household furnishings and operations	128.2	129.1	128.8	129.1	129.1	129.1	128.9	129.2	129.2	129.1	129.4	129.0	129.1	128.9	128.7
Apparel	129.6	127.3	125.4	128.4	132.2	131.9	129.8	126.3	122.6	122.6	126.8	129.5	128.0	123.7	120.4
Men's and boys' apparel	129.7	125.7	125.5	126.6	127.5	128.2	129.1	125.8	122.5	121.4	123.7	127.5	127.4	122.8	120.8
Women's and girls' apparel	121.5	119.3	115.5	121.0	127.8	127.0	122.3	117.5	111.6	112.1	120.3	122.1	119.4	114.8	109.7
Infants' and toddlers' apparel[1]	130.6	129.2	127.4	129.3	1316.0	131.4	130.6	127.3	124.5	126.3	129.3	131.5	132.4	128.5	125.0
Footwear	123.8	123.0	121.4	122.6	125.2	124.9	124.4	122.1	121.3	121.9	122.9	124.9	123.7	120.6	117.1
Transportation	153.3	154.3	154.4	154.9	153.9	156.1	159.2	158.3	154.4	153.3	155.5	152.3	150.2	148.5	148.6
Private transportation	149.1	150.0	150.3	150.7	149.7	152.1	155.3	154.0	149.9	148.8	151.2	148.1	146.1	144.3	144.4
New and used motor vehicles[2]	100.8	101.3	102.3	102.2	101.9	101.8	101.4	101.1	100.8	100.5	100.2	100.6	101.3	101.6	101.0
New vehicles	142.8	142.1	143.7	143.3	142.8	142.7	142.3	141.7	141.2	140.3	140.2	141.0	142.6	143.5	142.7
Used cars and trucks[1]	155.8	158.7	160.4	160.4	159.9	159.7	159.1	158.9	158.3	158.0	157.3	157.8	157.4	157.2	155.6
Motor fuel	129.3	124.7	126.6	127.5	124.1	133.6	146.8	142.0	125.6	121.9	131.4	116.3	104.5	96.1	97.9
Gasoline (all types)	128.6	124.0	125.8	126.8	123.3	132.8	146.0	141.3	124.9	121.2	130.7	115.6	103.8	95.4	97.2
Motor vehicle parts and equipment	101.5	104.8	103.6	104.0	104.7	104.2	104.4	104.4	105.1	104.9	105.2	105.5	105.8	105.8	106.2
Motor vehicle maintenance and repair	177.3	183.5	180.6	181.5	181.7	181.9	182.5	182.7	183.4	184.0	185.1	186.0	186.4	186.4	187.1
Public transportation	209.6	210.6	210.2	212.1	210.0	208.3	209.3	216.3	216.1	213.7	212.7	209.1	205.1	204.8	205.8
Medical care	260.8	272.8	267.1	268.9	270.0	270.8	271.4	272.5	273.1	274.4	275.0	275.9	276.7	277.3	279.6
Medical care commodities	238.1	247.6	242.3	243.8	244.9	245.7	246.6	248.1	248.5	249.1	249.6	250.2	250.6	251.6	252.6
Medical care services	266.0	278.8	273.0	274.9	275.9	276.8	277.3	278.3	278.9	280.5	281.0	282.0	283.0	283.5	286.2
Professional services	237.7	246.5	242.6	244.1	244.8	245.6	245.8	246.5	246.8	247.7	247.9	248.4	248.8	248.9	250.6
Hospital and related services	317.3	338.3	328.5	331.0	332.8	333.6	335.1	336.6	337.9	341.2	342.6	344.8	347.1	348.3	353.1
Recreation[2]	103.3	104.9	104.1	104.3	104.3	105.0	105.0	104.8	105.0	105.1	105.2	105.3	105.5	105.3	105.7
Video and audio[1,2]	101.0	101.5	101.2	101.6	101.6	101.7	101.6	101.3	101.7	101.7	101.3	101.3	101.4	101.2	102.1
Education and communication[2]	102.5	105.2	103.9	104.0	104.3	104.1	104.0	104.4	104.8	105.8	106.6	107.1	107.0	106.9	107.2
Education[2]	112.5	118.5	115.8	116.0	116.1	116.1	116.4	116.9	117.2	119.5	121.7	122.2	122.3	122.0	122.6
Educational books and supplies	279.9	295.9	289.2	290.4	290.8	290.8	290.7	293.9	295.1	298.0	305.4	307.2	304.7	294.7	303.0
Tuition, other school fees, and child care	324.0	341.1	333.3	333.7	334.0	334.1	335.0	336.2	337.2	343.9	350.0	351.5	352.0	352.2	353.2
Communication[1,2]	93.6	93.3	93.3	93.2	93.7	93.3	92.9	93.1	93.6	93.5	93.1	93.6	93.3	93.4	93.4
Information and information processing[1,2]	92.8	92.3	92.4	92.2	92.7	92.3	91.8	92.1	92.5	92.4	92.0	92.5	92.2	92.3	92.2
Telephone services[1,2]	98.5	99.3	98.8	98.7	99.4	99.0	98.7	99.0	99.6	99.6	99.2	99.9	99.6	99.6	100.3
Information and information processing other than telephone services[1,4]	25.9	21.3	23.2	22.9	22.5	22.1	21.7	21.4	21.3	20.7	20.3	20.2	20.0	19.8	19.4
Personal computers and peripheral equipment[1,2]	41.1	29.5	35.0	33.9	32.4	31.7	30.4	29.8	29.3	27.8	26.7	26.4	25.8	25.3	24.6
Other goods and services	271.1	282.6	275.9	277.2	277.7	277.7	281.3	281.2	285.8	283.3	287.8	285.6	289.2	286.4	287.2
Tobacco and smoking products	394.9	425.2	404.3	408.5	407.7	424.2	418.7	421.0	441.2	424.6	444.0	429.9	446.7	431.7	432.9
Personal care[1]	165.6	170.5	168.2	168.6	169.1	169.6	169.5	170.0	170.7	171.2	171.9	172.3	172.6	172.6	173.2
Personal care products[1]	153.7	155.1	155.3	155.3	155.7	155.8	153.2	154.6	155.1	154.7	155.5	155.4	155.4	155.4	155.2
Personal care services[1]	178.1	184.3	181.6	181.9	182.2	183.4	184.1	184.1	184.8	185.2	185.5	185.9	186.8	186.4	186.9

See footnotes at end of table.

2. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Miscellaneous personal services	252.3	263.1	257.3	258.6	259.5	260.2	261.0	261.8	263.2	265.5	266.4	267.3	268.0	268.5	270.4
Commodity and service group:															
Commodities	149.2	150.7	150.0	150.6	150.7	151.9	152.9	152.1	150.4	149.8	151.5	150.5	149.5	147.9	147.8
Food and beverages	168.4	173.6	171.4	171.8	172.2	172.4	172.9	173.4	174.0	174.4	174.6	175.3	175.2	175.2	176.2
Commodities less food and beverages	137.7	137.2	137.4	138.1	138.0	139.7	140.8	139.4	136.5	135.4	138.0	136.1	134.6	132.3	131.6
Nondurables less food and beverages	147.4	147.1	146.4	147.7	147.9	151.0	153.5	151.3	146.3	144.8	149.6	146.0	142.8	138.4	137.9
Apparel	129.6	127.3	125.4	128.4	132.2	131.9	129.8	126.3	122.6	122.6	126.8	129.5	128.0	123.7	120.4
Nondurables less food, beverages, and apparel	162.5	163.4	163.2	163.7	161.9	167.0	172.0	170.4	164.5	162.1	167.5	160.4	156.2	151.6	152.6
Durables	125.4	124.6	125.9	125.9	125.5	125.4	124.9	124.5	124.2	123.6	123.4	123.6	124.2	124.3	123.6
Services	195.3	203.4	200.2	201.0	201.8	201.9	202.5	204.0	204.5	205.2	204.9	204.7	205.1	205.3	206.3
Rent of shelter[3]	201.3	208.9	204.5	205.7	207.2	207.4	207.8	209.0	209.7	210.8	210.3	210.8	211.3	211.7	213.0
Transporatation services	196.1	201.9	199.1	200.3	200.2	200.1	200.4	202.0	202.6	202.7	202.8	203.4	204.2	204.5	205.2
Other services	229.9	238.0	234.1	234.8	235.4	236.2	236.4	236.7	237.7	239.4	240.6	241.4	241.9	241.9	242.9
Special indexes:															
All items less food	173.0	177.8	175.9	176.6	177.1	177.8	178.6	179.0	178.2	178.2	179.0	178.2	177.8	177.0	177.4
All items less shelter	165.7	169.7	168.6	169.1	169.2	170.1	170.9	171.0	170.0	169.7	170.9	169.9	169.3	168.2	168.4
All items less medical care	167.3	171.9	170.1	170.8	171.2	171.8	172.6	172.9	172.3	172.3	173.0	172.4	172.0	171.3	171.7
Commodities less food	139.2	138.9	139.0	139.7	139.6	141.2	142.4	141.0	138.2	137.2	139.7	137.8	136.4	134.1	133.5
Nondurables less food	149.1	149.1	148.3	149.6	149.8	152.8	155.1	153.1	148.3	146.9	151.5	148.1	145.1	140.9	140.5
Nondurables less food and apparel	162.9	164.1	163.9	164.3	162.7	167.4	172.0	170.6	165.2	163.0	168.0	161.5	157.7	153.4	154.5
Nondurables	158.2	160.6	159.1	160..0	160.3	162.0	163.6	162.7	160.3	159.7	162.3	160.8	159.1	156.8	157.0
Services less rent of shelter[3]	202.9	212.3	210.0	210.5	210.6	210.6	211.4	213.3	213.7	214.0	213.9	213.0	213.3	213.2	213.9
Services less medical care services	188.9	196.6	193.6	194.3	195.1	195.2	195.7	197.2	197.8	198.4	198.1	197.8	198.2	198.3	199.2
Energy	124.6	129.3	132.5	132.0	129.5	133.1	140.1	140.5	132.4	129.4	132.5	122.1	116.0	111.4	111.7
All items less energy	178.6	183.5	181.0	181.8	182.6	182.9	182.9	183.3	183.6	184.1	184.5	185.1	185.4	185.2	185.7
All items less food and energy	181.3	186.1	183.5	184.4	185.3	185.6	185.5	185.9	186.2	186.6	187.1	187.6	188.1	187.8	188.2
Commodities less food and energy	144.9	145.3	144.8	145.9	146.2	146.6	145.7	144.9	144.4	143.8	145.2	145.6	146.0	144.7	143.7
Energy commodities	129.5	125.2	128.6	129.1	125.4	133.8	145.6	141.1	125.6	122.0	131.0	116.9	105.8	97.6	99.3
Services less energy	202.1	209.6	205.7	206.8	207.7	208.0	208.4	209.4	210.1	211.2	211.2	211.7	212.3	212.6	213.8
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	163.2	173.5	171.7	172.4	172.6	173.5	174.4	174.6	173.8	173.8	174.8	174.0	173.7	172.9	173.2
All items (1967 = 100)	486.2	516.8	511.6	513.4	514.2	516.7	519.4	520.0	517.8	517.6	520.6	518.3	517.3	515.0	515.0
Food and beverages	163.8	173.0	170.8	171.2	171.6	171.9	172.3	172.8	173.4	173.8	174.0	174.8	174.5	174.6	175.7
Food	163.4	172.5	170.3	170.8	171.1	171.4	171.9	172.4	173.0	173.4	173.5	174.3	174.1	174.1	175.2
Food at home	163.0	172.4	170.3	170.8	171.1	171.3	171.8	172.4	173.0	173.3	173.4	174.3	173.7	173.7	175.3
Cereals and bakery products	184.7	193.6	190.9	191.7	191.7	192.2	192.9	193.9	194.5	195.6	194.8	195.1	194.7	195.1	196.7
Meats, poultry, fish, and eggs	147.6	161.2	157.9	159.2	160.0	160.7	160.6	161.4	162.1	162.0	162.3	163.2	162.6	161.8	162.0
Dairy and related products[1]	159.4	167.1	163.8	163.5	163.1	163.5	164.7	166.9	168.3	168.9	169.4	170.8	171.2	170.6	169.7
Fruits and vegetables	201.8	210.8	210.9	210.1	209.8	211.7	211.5	210.5	209.5	208.0	211.0	212.2	211.5	212.8	223.2
Nonalcoholic beverages and beverage materials	133.2	138.4	138.7	139.3	138.8	138.2	137.2	137.8	138.0	139.3	138.4	139.2	138.7	137.7	138.8
Other foods at home	152.8	159.1	157.3	157.3	158.2	157.1	159.1	159.1	160.0	160.5	159.8	160.4	159.7	160.5	161.0
Sugar and sweets	152.2	155.6	155.4	155.6	155.6	153.7	155.8	155.5	156.0	156.1	156.2	156.2	154.7	155.9	158.5
Fats and oils	147.9	155.4	152.8	152.4	153.0	151.4	154.3	156.4	157.4	158.0	158.1	159.1	155.1	156.5	158.0
Other foods	168.8	176.3	174.0	174.1	175.4	174.6	176.5	176.0	177.2	177.9	176.5	177.3	177.8	178.3	177.9
Other miscellaneous foods[1,2]	104.6	109.1	108.5	108.5	108.5	108.4	108.7	108.0	109.9	109.7	109.2	109.5	110.8	109.0	109.3
Food away from home[1]	165.0	173.8	171.4	171.8	172.3	172.7	173.1	173.5	174.0	174.7	175.0	175.6	175.8	176.0	176.4
Other food away from home[1,2]	105.1	113.6	111.5	111.6	111.8	112.0	112.5	112.8	114.0	114.4	115.6	115.7	115.8	115.8	115.8
Alcoholic beverages	168.8	178.8	176.5	177.0	177.2	177.6	178.0	178.4	179.2	179.7	180.1	180.5	180.8	180.5	181.4
Housing	160.0	172.1	170.2	170.5	171.0	171.0	171.7	173.0	173.3	173.5	173.2	172.5	172.8	172.9	173.4
Shelter	181.6	194.5	190.6	191.5	192.6	192.9	193.5	194.4	195.0	195.9	196.0	196.6	197.2	197.7	198.7
Rent of primary residence	177.1	191.5	187.7	188.3	189.0	189.6	190.4	191.0	191.7	192.4	193.3	194.0	194.9	195.7	196.3
Lodging away from home[2]	122.2	118.4	113.8	118.5	123.8	121.2	119.9	123.2	123.7	124.4	116.8	114.8	111.8	108.8	113.2
Owners' equivalent rent of primary residence[3]	175.7	187.6	184.1	184.5	185.2	185.7	186.3	187.0	187.5	188.5	189.2	190.0	190.9	191.7	192.3
Tenants' and household insurance[1,2]	101.6	106.4	105.2	105.3	105.6	105.8	106.9	107.2	106.7	106.8	106.8	107.0	107.1	106.3	106.4
Fuels and utilities	128.7	149.5	153.2	151.5	149.9	148.8	150.8	155.2	154.4	152.2	150.1	144.0	142.8	141.5	140.8
Fuels	113.0	134.2	138.6	136.6	134.8	133.6	135.7	140.5	139.5	137.0	134.7	127.9	126.7	125.2	124.2
Fuel oil and other fuels	91.7	129.2	150.1	145.0	138.0	133.9	131.5	129.2	123.1	121.5	125.3	121.4	118.5	112.7	113.0
Gas (piped) and electricity	120.4	141.5	144.8	143/0	141.5	140.4	142.9	148.5	147.8	145.2	142.2	135.0	133.7	132.5	131.4
Household furnishings and operations	124.7	125.8	125.7	125.9	125.9	126.0	125.7	125.9	125.8	125.7	126.0	125.5	125.6	125.4	125.0
Apparel	130.1	126.1	124.1	127.0	130.6	130.5	128.5	125.2	121.9	121.6	125.6	128.3	127.2	123.0	116.6
Men's and boys' apparel	131.2	125.8	125.8	126.9	127.6	128.3	129.2	126.3	122.9	121.6	123.7	127.3	127.3	122.7	121.0
Women's and girls' apparel	121.3	117.3	113.2	118.4	125.2	124.7	120.2	115.6	110.2	110.1	118.3	120.2	118.0	113.5	108.5
Infants' and toddlers' apparel[1]	130.3	130.9	129.0	131.0	133.3	133.2	132.0	128.6	126.2	128.3	131.1	133.5	134.3	130.3	126.7
Footwear	126.2	123.1	121.5	122.4	125.2	125.2	124.5	122.1	121.4	122.0	123.0	124.9	124.2	121.0	117.7
Transportation	143.4	153.6	154.0	154.5	153.3	155.8	159.2	157.9	153.4	152.5	155.1	151.4	149.2	147.4	147.5
Private transportation	140.7	150.8	151.2	151.7	150.5	153.2	156.6	155.1	150.4	149.5	152.3	148.6	146.4	144.5	144.6
New and used motor vehicles[2]	100.4	101.9	102.9	102.8	102.5	102.4	102.0	101.7	101.4	101.0	100.7	101.1	101.7	102.0	101.3

See footnotes at end of table.

32. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
New vehicles	143.9	143.2	144.8	144.5	143.8	143.8	143.4	142.7	142.3	141.4	141.3	142.1	143.8	144.7	143.8
Used cars and trucks[1]	157.1	159.8	161.7	161.7	161.1	160.9	160.2	160.0	159.3	159.0	158.2	158.7	158.3	158.1	156.5
Motor fuel	129.5	124.9	126.9	127.8	124.1	134.0	147.4	142.1	124.9	122.0	132.4	116.2	104.4	96.3	98.2
Gasoline (all types)	128.8	124.2	126.2	127.1	123.4	133.3	146.7	141.1	124.2	121.3	131.7	115.5	103.8	95.7	97.6
Motor vehicle parts and equipment	100.9	104.0	103.0	103.4	104.0	103.5	103.6	103.6	104.3	104.1	104.4	104.7	105.0	104.9	105.3
Motor vehicle maintenance and repair	178.8	185.1	182.1	183.1	183.3	183.4	184.1	184.4	185.0	185.6	186.7	187.5	187.8	187.9	188.6
Public transportation	203.4	204.9	204.3	205.8	204.2	202.7	203.5	209.5	209.5	207.7	207.0	203.7	200.4	200.1	201.0
Medical care	259.9	271.8	266.3	268.1	269.1	269.9	270.4	271.5	272.0	273.4	273.9	274.9	275.6	276.2	278.5
Medical care commodities	233.6	242.7	237.8	239.1	240.2	241.0	241.7	243.2	243.6	244.1	244.6	245.2	245.6	246.7	247.6
Medical care services	265.9	278.5	272.8	274.7	275.7	276.5	277.0	278.0	278.5	280.2	280.7	281.7	282.6	283.0	285.7
Professional services	239.6	248.7	244.9	246.4	247.0	247.8	248.0	248.7	249.0	249.9	250.1	250.5	250.9	251.0	252.8
Hospital and related services	313.2	333.8	323.9	326.6	328.3	329.1	330.6	332.0	333.5	337.0	338.3	340.5	342.7	343.6	348.2
Recreation[2]	102.4	103.6	103.0	103.1	103.0	103.7	103.7	103.5	103.7	103.9	103.8	103.8	104.0	103.8	104.2
Video and audio[1,2]	100.7	100.9	100.8	101.2	101.0	101.2	101.1	100.7	101.1	101.0	100.6	100.6	100.7	100.5	101.4
Education and communication[2]	102.7	105.3	104.0	104.1	104.4	104.2	104.1	104.5	104.9	105.8	106.5	107.1	106.9	106.9	107.1
Education[2]	112.8	118.7	116.0	116.2	116.3	116.4	116.7	117.2	117.6	119.6	121.7	122.3	122.3	122.1	122.7
Educational books and supplies	283.3	299.9	292.9	294.1	294.7	294.7	294.5	298.2	299.3	302.2	309.8	311.7	308.9	297.3	305.2
Tuition, other school fees, and child care	318.2	334.7	327.0	327.4	327.9	328.2	329.1	330.3	331.3	337.3	342.9	344.4	344.9	345.2	346.2
Communication[1,2]	94.6	94.5	94.4	94.4	94.8	94.4	94.0	94.3	94.8	94.7	94.3	94.9	94.5	94.6	94.7
Information and information processing[1,2]	94.1	93.8	93.8	93.7	94.1	93.8	93.4	93.6	94.0	94.0	93.6	94.2	93.8	93.9	94.0
Telephone services[1,2]	98.7	99.4	99.0	98.9	99.5	99.2	98.8	99.2	99.7	99.8	99.4	100.1	99.7	99.9	100.4
Information and information processing other than telephone services[1,4]	26.8	22.1	24.0	23.8	23.3	22.8	22.4	22.2	22.0	21.5	21.2	21.0	20.8	20.6	20.1
Personal computers and peripheral equipment[1,2]	40.5	29.1	34.3	33.4	31.8	31.1	29.9	29.4	28.7	27.4	26.6	26.1	25.5	25.0	24.3
Other goods and services	276.5	289.5	281.5	283.2	283.5	288.2	286.8	287.9	293.8	290.0	295.5	292.4	297.3	293.3	294.0
Tobacco and smoking products	395.2	426.1	404.6	409.2	408.5	424.8	419.8	421.6	441.9	425.6	444.7	430.9	448.3	432.9	433.5
Personal care[1]	165.5	170.3	168.1	168.5	169.0	169.4	169.3	169.9	170.6	170.9	171.4	171.9	172.3	172.3	172.7
Personal care products[1]	154.2	155.7	155.7	155.7	155.9	156.0	153.8	155.4	155.9	155.5	156.1	156.1	156.1	156.0	155.9
Personal care services[1]	178.6	184.9	182.1	182.4	182.8	183.9	184.7	184.8	185.4	185.9	186.1	186.5	187.4	187.1	187.0
Miscellaneous personal services	251.9	262.8	257.0	258.4	258,3	260.0	260.7	261.6	263.2	264.9	265.6	266.8	267.5	268.0	269.8
Commodity and service group:															
Commodities	149.8	151.4	150.8	151.4	151.4	152.8	153.9	153.0	151.2	150.5	152.5	151.2	150.1	148.4	148.3
Food and beverages	167.7	173.0	170.8	171.2	171.6	171.9	172.3	172.8	173.4	173.8	174.0	174.8	174.5	174.6	175.7
Commodities less food and beverages	139.0	138.7	138.8	139.5	139.3	141.2	142.6	141.1	138.0	136.9	139.8	137.4	135.9	133.4	132.7
Nondurables less food and beverages	149.1	149.0	148.1	149.4	149.3	153.1	156.2	153.6	148.2	146.5	152.0	147.4	144.2	139.4	138.9
Apparel	128.3	126.1	124.1	127.0	130.6	130.5	128.5	125.2	121.9	121.6	125.6	128.3	127.2	123.0	119.6
Nondurables less food, beverages, and apparel	165.3	166.3	166.0	166.5	164.4	170.5	176.3	174.1	167.3	164.8	171.4	162.7	158.2	153.1	154.2
Durables	125.8	125.3	126.6	126.6	126.2	126.0	125.5	125.2	124.8	124.3	124.1	124.3	124.8	124.9	124.1
Services	191.6	199.6	196.6	197.2	197.8	198.0	198.7	200.1	200.6	201.2	201.1	201.0	201.4	201.7	202.5
Rent of shelter[3]	180.5	187.3	183.6	184.4	185.5	185.8	186.3	187.2	187.8	188.7	188.7	189.3	189.9	190.4	191.4
Transporatation services	192.9	199.1	196.0	197.2	197.2	197.2	197.6	198.9	199.5	199.8	200.1	200.9	202.3	202.6	203.4
Other services	225.9	233.7	229.9	230.6	231.2	231.9	232.2	232.6	233.6	235.1	235.9	236.8	237.2	237.3	238.3
Special indexes:															
All items less food	169.1	173.6	171.9	172.5	172.8	173.8	174.7	174.9	173.9	173.7	174.9	173.8	173.4	172.5	172.7
All items less shelter	163.8	167.6	166.5	167.0	167.0	168.0	169.1	169.0	167.8	167.5	168.8	167.6	166.9	165.7	165.8
All items less medical care	164.7	169.1	167.4	168.0	168.2	169.1	170.0	170.2	169.4	169.3	170.3	169.5	169.1	168.3	168.5
Commodities less food	140.4	140.2	140.3	141.0	140.8	142.7	144.1	142.6	139.6	138.5	141.3	139.0	137.6	135.1	134.5
Nondurables less food	150.7	150.8	149.9	151.1	151.1	154.7	157.6	155.3	150.1	148.5	153.8	149.4	146.4	141.8	141.8
Nondurables less food and apparel	165.4	166.7	166.3	166.8	164.9	170.5	175.9	173.9	167.7	165.4	171.5	163.5	159.5	154.7	154.7
Nondurables	158.9	161.4	159.9	160.8	160.9	163.0	164.8	163.8	161.2	160.5	163.5	161.5	159.7	157.3	157.5
Services less rent of shelter[3]	180.1	188.5	186.6	186.9	187.0	187.0	187.8	189.6	189.9	190.1	189.9	189.0	189.3	189.2	189.8
Services less medical care services	185.4	193.1	190.3	190.8	191.4	191.6	192.3	193.6	194.2	194.7	194.6	194.4	194.8	195.0	195.7
Energy	124.8	128.7	131.8	131.3	128.6	132.9	140.6	140.3	131.3	128.6	132.6	121.2	114.8	110.0	110.5
All items less energy	175.1	179.8	177.4	178.2	178.8	179.2	179.2	179.5	179.8	180.1	180.7	181.3	181.8	181 5	181.6
All items less food and energy	177.1	181.7	179.3	180.1	180.9	181.3	181.2	181.4	181.7	181.9	182.6	183.2	183.8	183.5	183.6
Commodities less food and energy	145.4	146.1	145.5	146.2	146.8	147.3	146.4	145.6	145.4	144.6	146.0	146.3	146.9	145.6	144.4
Energy commodities	129.7	125.3	128.5	129.1	125.1	134.2	146.6	141.5	125.0	122.1	132.1	116.7	105.5	97.5	99.2
Services less energy	198.7	206.0	202.2	203.1	204.0	204.4	204.8	205.7	206.3	207.3	207.6	208.3	209.0	209.4	210.4

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

Dash indicates data not available.

NOTE: Index applied to a month as a whole, not to any specific date.

33. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	All Urban Consumers						Urban Wage Earners					
		2001					2002	2001					2002
		Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
U.S. city average	M	177.5	178.3	177.7	177.4	176.7	177.1	173.8	174.8	174.0	173.7	172.9	173.2
Region and area size[2]													
Northeast urban	M	185.1	185.1	185.0	185.0	184.2	184.9	181.7	181.9	181.8	181.8	181.0	181.4
Size A—More than 1,500,000	M	186.5	186.5	186.3	186.1	185.4	186.2	182.2	182.4	182.0	181.9	181.1	181.6
Size B/C—50,000 to 1,500,000[3]	M	110.5	110.4	110.6	110.9	10.3	110.5	109.8	109.9	110.2	110.5	109.9	110.1
Midwest urban[4]	M	173.0	174.6	172.6	172.5	171.9	172.1	168.9	170.8	168.4	168.2	167.6	167.7
Size A—More than 1,500,000	M	174.8	176.1	174.5	174.2	173.8	174.1	169.8	171.3	169.4	169.1	168.7	168.8
Size B/C—50,000 to 1,500,000[3]	M	110.3	111.6	110.0	110.0	109.6	109.5	110.1	111.8	109.7	109.8	109.2	109.2
Size D—Nonmetropolitan (less than 50,000)	M	166.8	168.8	166.9	166.3	165.5	166.2	164.9	167.1	164.9	164.1	163.3	163.9
South urban	M	171.5	172.2	171.7	171.0	170.3	170.6	169.4	170.3	169.8	169.0	168.1	168.3
Size A—More than 1,500,000	M	172.3	173.2	173.1	172.2	171.7	171.7	169.8	170.9	170.7	169.6	169.0	169.0
Size B/C—50,000 to 1,500,000[3]	M	109.8	110.2	109.7	109.4	108.9	109.2	109.3	110.0	109.4	109.0	108.5	108.6
Size D—Nonmetropolitan (less than 50,000)	M	170.1	169.7	169.9	168.9	167.7	168.6	170.7	170.8	170.8	169.9	168.3	169.2
West urban	M	181.9	182.5	182.5	182.3	181.6	182.4	176.9	177.6	177.8	177.6	176.8	177.4
Size A—More than 1,500,000	M	111.2	111.7	112.1	112.0	111.6	111.9	177.4	178.1	178.0	177.7	176.9	177.7
Size B/C—50,000 to 1,500,000[3]	M	111.2	111.7	112.1	112.0	111.6	111.9	110.8	111.4	111.8	111.8	111.2	111.4
Size classes:													
A[5]	M	161.9	162.5	162.0	161.7	161.1	161.6	160.1	160.9	160.3	160.0	159.4	159.7
B/C[3]	M	110.2	110.8	110.3	110.2	109.7	109.9	109.8	110.6	110.0	109.9	109.3	109.4
D	M	171.2	172.0	171.5	170.8	169.8	170.5	170.0	171.1	170.4	169.7	168.5	169.2
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	178.1	179.7	178.1	177.4	177.9	177.9	172.0	173.7	171.9	171.2	171.7	171.6
Los Angeles–Riverside–Orange County, CA	M	178.4	178.8	178.3	178.1	177.1	178.9	71.1	171.5	171.0	170.7	169.7	171.5
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	188.1	188.0	187.8	187.8	187.3	188.5	183.5	183.6	183.3	183.3	182.8	183.5
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	192.7	–	192.7	–	192.9	–	192.0	–	191.9	–	191.8
Cleveland–Akron, OH	1	–	174.6	–	172.3	–	171.4	–	166.5	–	164.0	–	162.8
Dallas–Ft Worth, TX	1	–	172.8	–	171.5	–	170.6	–	172.6	–	171.1	–	170.0
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	111.7	–	110.9	–	110.9	–	111.6	–	110.7	–	110.5
Atlanta, GA	2	176.9	–	176.7	–	174.8	–	174.2	–	169.6	–	172,0	–
Detroit–Ann Arbor–Flint, MI	2	175.1	–	174.8	–	173.5	–	169.4	–	169.1	–	167.9	–
Houston–Galveston–Brazoria, TX	2	158.6	–	159.4	–	157.1	-	157.0	–	157.8	–	155.2	–
Miami–Ft. Lauderdale, FL	2	173.5	–	174.2	–	173.1	–	170.9	–	171.7	–	170.5	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	182.8	–	182.9	–	179.9	–	182.0	–	182.3	–	179.2	–
San Francisco–Oakland–San Jose, CA	2	191.0	–	191.7	–	190.6	–	186.7	–	187.5	–	186.5	–
Seattle–Tacoma–Bremerton, WA	2	186.8	–	187.9	–	186.1		181.5	–	183.1	–	181.1	–

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Port-land–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

Dash indicates data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date.

34. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Consumer Price Index for All Urban Consumers:										
All items:										
Index	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.2	177.1
Percent change	3.0	3.0	2.6	2.8	3.0	2.3	1.6	2.2	3.4	2.8
Food and beverages:										
Index	138.7	141.6	144.9	148.9	153.7	157.7	161.1	164.6	168.4	173.6
Percent change	1.4	2.1	2.3	2.8	3.2	2.6	2.2	2.2	2.3	3.1
Housing:										
Index	137.5	141.2	144.8	148.5	152.8	156.8	160.4	163.9	169.6	176.4
Percent change	2.9	2.7	2.5	2.6	2.9	2.6	2.3	2.2	3.5	4.0
Apparel:										
Index	131.9	133.7	133.4	132.0	131.7	132.9	133.0	131.3	129.6	127.3
Percent change	2.5	1.4	–.2	–1.0	–.2	.9	.1	–1.3	–1.3	–1.8
Transportation:										
Index	126.5	130.4	134.3	139.1	143.0	144.3	141.6	144.4	153.3	154.3
Percent change	2.2	3.1	3.0	3.6	2.8	0.9	–1.9	2.0	6.2	0.7
Medical care:										
Index	190.1	201.4	211.0	220.5	228.2	234.6	242.1	250.6	260.8	272.8
Percent change	7.4	5.9	4.8	4.5	3.5	2.8	3.2	3.5	4.1	4.6
Other goods and services:										
Index	183.3	192.9	198.5	206.9	215.4	224.8	237.7	258.3	271.1	282.6
Percent change	6.8	5.2	2.9	4.2	4.1	4.4	5.7	8.7	5.0	4.2
Consumer Price Index for Urban Wage Earners and Clerical Workers:										
All items:										
Index	138.2	142.1	145.6	149.8	154.1	157.6	159.7	163.2	168.9	173.5
Percent change	2.9	2.8	2.5	2.9	2.9	2.3	1.3	2.2	3.5	2.7

5. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2001												2002
	2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Finished goods	138.0	140.7	141.2	141.5	141.0	141.7	142.5	142.1	140.7	141.1	141.7	139.6	139.7	137.2	137.5
Finished consumer goods	138.2	141.5	141.9	142.5	141.9	142.7	143.8	143.3	141.5	142.0	142.9	139.9	138.4	136.8	137.3
Finished consumer foods	137.2	141.3	138.4	139.5	140.9	141.6	141.8	141.9	141.2	142.6	142.9	141.8	140.5	140.4	141.1
Finshed consumer goods excluding foods	138.4	141.4	143.3	143.6	142.1	142.9	144.5	143.7	141.4	141.6	142.7	139.0	137.3	135.1	135.5
Nondurable goods less food	138.7	142.8	144.9	145.9	143.8	144.9	147.3	146.5	143.1	143.5	145.1	139.2	136.8	134.0	134.5
Durable goods	133.9	133.9	135.2	134.2	134.1	134.2	133.8	133.2	133.2	133.0	133.2	134.4	134.5	133.9	134.0
Capital equipment	138.8	139.7	140.2	139.7	139.7	140.0	139.7	139.6	139.8	139.5	139.4	139.8	139.9	139.7	139.6
Intermediate materials, supplies, and components	129.2	128.7	131.5	131.3	130.8	130.6	131.2	131.4	130.3	129.8	130.1	127.6	126.7	125.4	125.6
Materials and components for manufacturing	128.1	127.4	128.6	128.8	128.9	128.7	128.6	128.3	127.5	126.9	126.6	125.9	125.2	124.7	124.6
Materials for food manufacturing	119.2	124.3	120.4	120.3	122.3	122.3	124.6	125.7	126.1	128.1	127.5	126.1	123.9	122.5	122.6
Materials for nondurable manufacturing	132.6	131.8	135.0	136.1	135.8	135.2	134.2	133.4	131.9	130.1	129.9	128.7	127.4	126.2	124.9
Materials for durable manufacturing	129.0	125.2	127.2	127.0	126.7	126.0	126.9	126.5	125.3	124.6	124.2	123.4	122.8	122.5	122.7
Components for manufacturing	126.2	126.3	126.4	126.2	126.4	126.6	126.4	126.4	126.2	126.2	125.9	125.9	125.9	126.0	126.5
Materials and components for construction	150.7	150.6	149.6	150.0	150.2	150.4	151.6	151.7	151.0	151.0	150.8	150.4	150.3	149.0	150.3
Processed fuels and lubricants	102.0	104.5	111.4	109.9	106.9	105.9	108.1	110.2	106.8	106.0	108.4	97.4	94.7	89.3	90.4
Containers	151.6	153.1	153.0	153.0	152.8	153.2	153.9	154.1	153.6	153.2	153.0	152.4	152.2	152.2	152.5
Supplies	136.9	138.6	138.9	138.5	138.7	139.0	139.0	138.8	138.8	138.7	138.6	138.3	138.3	138.1	138.3
Crude materials for further processing	120.6	121.3	155.0	133.2	131.5	132.9	130.9	122.8	116.1	113.4	108.0	97.7	104.8	94.8	98.1
Foodstuffs and feedstuffs	100.2	106.2	105.3	104.5	108.9	109.1	110.3	109.7	109.6	108.9	108.5	104.7	98.3	96.4	99.5
Crude nonfood materials	130.4	127.3	183.5	148.2	142.2	144.5	140.4	127.4	116.3	112.4	103.8	89.4	105.5	90.2	93.6
Special groupings:															
Finished goods, excluding foods	138.1	140.4	141.9	142.0	140.9	141.6	142.6	142.0	140.5	140.5	141.3	138.8	137.7	136.1	136.3
Finished energy goods	94.1	96.8	101.9	103.6	99.7	101.2	104.1	102.7	97.0	97.8	100.1	90.1	85.5	80.7	81.7
Finished goods less energy	144.9	147.5	146.7	146.6	147.1	147.5	147.7	147.6	147.5	147.7	147.9	147.9	147.7	147.6	147.6
Finished consumer goods less energy	147.4	150.8	149.4	149.5	150.2	150.6	151.6	150.9	150.7	151.1	151.4	151.3	151.0	150.9	151.0
Finished goods less food and energy	148.0	150.0	150.0	149.4	149.5	149.8	150.0	149.9	149.9	149.7	149.8	150.4	150.6	150.4	150.3
Finished consumer goods less food and energy	154.0	156.9	156.5	155.9	156.1	156.4	156.9	156.7	156.8	156.6	156.8	157.5	157.8	157.6	157.5
Consumer nondurable goods less food and energy	169.8	175.1	173.2	173.2	173.5	174.0	175.4	175.5	175.5	175.3	175.6	175.8	176.4	176.4	176.1
Intermediate materials less foods and feeds	130.1	130.5	132.4	132.3	131.7	131.6	132.1	132.3	131.0	130.4	130.7	128.2	127.3	126.0	126.3
Intermediate foods and feeds	111.7	115.9	115.1	113.6	114.1	114.0	114.9	116.3	117.1	119.4	118.7	117.3	115.5	114.3	113.9
Intermediate energy goods	101.7	104.1	110.9	109.5	106.4	105.5	107.6	109.7	106.3	105.6	107.9	97.1	94.3	89.0	90.0
Intermediate goods less energy	135.0	135.1	135.8	135.8	136.0	136.0	136.1	135.9	135.3	134.9	134.7	134.2	133.7	133.4	133.4
Intermediate materials less foods and energy	136.6	136.4	137.1	137.3	137.4	137.4	137.5	137.2	136.5	136.0	135.8	135.3	134.9	134.6	134.7
Crude energy materials	122.1	122.8	193.4	148.3	141.0	145.2	139.8	123.1	109.0	104.2	93.1	75.2	96.5	76.7	81.0
Crude materials less energy	111.7	112.2	113.7	112.4	115.2	114.3	115.3	114.8	114.3	113.6	113.3	109.8	104.8	103.4	105.9
Crude nonfood materials less energy	145.2	130.6	138.7	136.1	134.6	130.8	130.9	130.6	129.4	128.4	128.5	125.8	124.5	124.2	125.4

36. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		2001												20
		2000	2001	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ja
–	**Total mining industries**	113.5	114.9	170.8	138.2	130.7	132.2	127.5	115.5	103.4	100.4	92.6	78.8	93.2	78.0	8
10	Metal mining	73.8	70.6	73.5	72.4	73.1	70.0	71.4	71.0	70.4	69.6	70.6	70.4	68.1	67.8	6
12	Coal mining (12/85 = 100)	84.8	91.3	83.6	90.8	90.3	90.6	92.2	87.7	90.9	89.9	92.5	92.7	95.5	91.8	9
13	Oil and gas extraction (12/85 = 100)	126.8	128.4	224.3	159.4	149.3	151.5	144.9	129.6	112.9	109.4	98.3	79.7	98.8	79.1	8
14	Mining and quarrying of nonmetallic minerals, except fuels	137.0	141.0	139.3	140.1	140.8	140.8	140.7	141.8	141.6	141.2	141.4	141.9	141.8	141.4	14
–	**Total manufacturing industries**	133.5	134.5	134.7	134.7	134.6	135.4	136.3	136.0	134.6	134.8	135.6	133.6	132.8	131.4	13
20	Food and kindred products	128.5	132.8	130.1	130.4	131.7	132.5	133.2	133.8	133.9	134.7	134.7	133.9	132.4	131.8	13
21	Tobacco manufactures	345.8	386.1	372.4	372.4	372.3	372.1	391.2	391.7	391.1	391.0	391.1	391.1	398.3	398.3	39
22	Textile mill products	116.7	116.9	117.4	117.9	117.0	117.0	117.1	117.2	116.9	116.6	116.5	116.2	116.2	116.1	11
23	Apparel and other finished products made from fabrics and similar materials	125.7	125.8	125.7	125.7	125.7	125.9	125.8	125.7	125.9	126.1	125.9	125.9	125.9	125.4	12
24	Lumber and wood products, except furniture	158.1	156.1	153.2	153.8	154.5	154.7	160.5	161.3	158.2	157.5	156.9	154.3	153.8	153.3	15
25	Furniture and fixtures	143.3	145.1	144.2	144.3	144.8	144.7	144.9	145.2	145.3	145.2	145.3	145.8	145.8	145.5	14
26	Paper and allied products	145.8	146.2	147.4	147.0	147.0	147.0	146.9	146.8	146.4	145.4	145.5	145.1	144.4	144.7	14
27	Printing, publishing, and allied industries	182.9	188.6	186.8	187.2	187.6	188.4	188.8	188.4	188.6	188.9	188.8	189.2	189.6	189.5	19
28	Chemicals and allied products	156.7	158.4	160.4	161.6	161.9	161.4	160.4	160.0	158.8	156.3	156.4	156.0	155.4	154.0	15
29	Petroleum refining and related products	112.8	105.3	112.5	112.0	107.3	114.1	120.9	116.9	103.8	106.8	115.4	93.8	87.2	75.3	7
30	Rubber and miscellaneous plastics products	124.6	125.9	126.0	126.1	126.8	127.4	126.6	126.4	126.5	126.0	125.2	125.6	125.3	125.4	12
31	Leather and leather products	137.9	141.2	139.1	140.6	140.9	142.8	142.9	142.6	141.9	142.1	141.3	141.0	140.2	140.0	14
32	Stone, clay, glass, and concrete products	134.6	136.0	134.4	135.0	135.4	135.6	136.0	135.7	135.9	135.9	136.4	136.7	137.1	136.8	13
33	Primary metal industries	119.8	116.1	118.5	118.0	117.4	116.8	116.9	116.5	116.1	115.8	115.2	114.7	114.3	114.0	11
34	Fabricated metal products, except machinery and transportation equipment	130.3	131.0	130.6	130.7	130.8	131.2	131.1	131.1	131.1	131.1	131.1	131.0	131.0	131.1	13
35	Machinery, except electrical	117.5	117.9	117.7	117.8	117.8	118.0	118.0	118.1	118.1	118.0	117.8	117.7	117.8	117.8	11
36	Electrical and electronic machinery, equipment, and supplies	108.3	107.0	107.7	107.6	107.5	107.5	107.4	107.3	106.9	106.4	106.4	106.5	106.6	106.6	10
37	Transportation	136.8	137.8	138.7	137.6	137.9	138.1	137.4	137.1	137.3	137.2	137.2	138.5	138.5	137.9	13
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	126.2	127.2	126.9	127.1	126.9	126.9	127.3	127.4	127.2	127.4	127.5	127.1	127.6	127.8	12
39	Miscellaneous manufacturing industries industries (12/85 = 100)	130.9	132.3	131.7	131.9	132.3	132.2	132.5	132.5	132.7	132.3	132.6	132.6	132.1	132.3	13
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	119.4	123.1	121.9	122.5	122.6	122.7	123.0	123.2	123.3	123.4	123.6	123.8	124.0	123.3	12
43	U.S. Postal Service (06/89 = 100)	135.2	143.4	141.3	141.3	141.3	141.3	141.3	141.3	145.4	145.4	145.4	145.4	145.4	145.4	14
44	Water transportation (12/92 = 100)	122.6	130.5	125.8	127.8	126.8	125.9	125.6	130.3	131.8	132.0	140.9	134.0	131.2	129.7	12
45	Transportation by air (12/92 = 100)	147.7	157.3	154.7	154.0	155.4	155.4	156.4	156.6	157.6	159.1	158.6	159.8	158.5	155.3	15
46	Pipelines, except natural gas (12/92 = 100)	102.3	110.2	109.1	109.1	108.9	108.9	109.0	109.0	110.9	111.2	111.3	111.5	111.3	111.3	11

37. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001[p]
Finished goods										
Total	123.2	124.7	125.5	127.9	131.3	131.8	130.7	133.0	138.0	140.7
Foods	123.3	125.7	126.8	129.0	133.6	134.5	134.3	135.1	137.2	141.3
Energy	77.8	78.0	77.0	78.1	83.2	83.4	75.1	78.8	94.1	96.8
Other	134.2	135.8	137.1	140.0	142.0	142.4	143.7	146.1	148.0	150.0
Intermediate materials, supplies, and components										
Total	114.7	116.2	118.5	124.9	125.7	125.6	123.0	123.2	129.2	129.7
Foods	113.9	115.6	118.5	119.5	125.3	123.2	123.2	120.8	119.2	124.3
Energy	84.3	84.6	83.0	84.1	89.8	89.0	80.8	84.3	101.7	104.1
Other	122.0	123.8	127.1	135.2	134.0	134.2	133.5	133.1	136.6	136.4
Crude materials for further processing										
Total	100.4	102.4	101.8	102.7	113.8	111.1	96.8	98.2	120.6	121.3
Foods	105.1	108.4	106.5	105.8	121.5	112.2	103.9	98.7	100.2	106.2
Energy	78.8	76.7	72.1	69.4	85.0	87.3	68.6	78.5	122.1	122.8
Other	94.2	94.1	97.0	105.8	105.7	103.5	84.5	91.1	118.0	101.8

38. U.S. export price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2001												2002
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
0	**Food and live animals**	103.3	101.9	102.5	101.9	101.2	101.1	101.8	102.6	103.3	102.7	100.9	101.1	102.6
01	Meat and meat preparations	101.1	102.6	102.6	105.2	106.2	106.1	105.7	106.4	107.8	107.8	99.2	97.8	92.8
04	Cereals and cereal preparations	110.1	106.7	107.9	104.2	104.3	102.6	102.2	104.5	106.4	103.9	105.2	107.2	108.3
05	Vegetables, fruit, and nuts, prepared fresh or dry	96.9	96.2	97.9	99.8	97.4	98.6	101.7	102.4	100.8	102.1	99.7	100.5	110.9
2	**Crude materials, inedible, except fuels**	98.7	97.7	96.0	94.5	93.3	92.6	92.4	91.1	89.5	87.1	86.3	87.0	86.8
22	Oilseeds and oleaginous fruits	100.4	93.4	94.5	89.7	91.0	95.6	102.5	104.3	99.0	89.8	89.1	90.9	91.6
24	Cork and wood	98.1	97.1	96.1	94.1	93.1	92.8	93.4	92.9	90.2	89.7	88.7	87.9	87.8
25	Pulp and waste paper	93.9	91.5	90.1	88.2	82.3	80.6	78.2	76.6	77.3	77.7	77.4	77.2	75.8
26	Textile fibers and their waste	101.6	101.9	97.6	93.5	92.5	90.9	90.4	89.3	87.7	84.5	82.0	84.0	85.3
28	Metalliferous ores and metal scrap	94.1	95.0	92.0	92.6	91.6	91.0	87.8	86.2	85.1	82.7	81.4	81.3	83.4
3	**Mineral fuels, lubricants, and related products**	105.8	107.1	102.4	104.8	106.8	103.2	96.7	97.5	103.3	93.4	88.3	82.4	86.8
32	Coal, coke, and briquettes	98.8	98.8	99.3	106.4	106.6	106.9	106.8	107.9	108.8	108.9	108.9	108.8	109.5
33	Petroleum, petroleum products, and related materials	104.2	106.5	0.2	102.7	106.1	101.8	93.7	95.2	103.6	88.4	80.9	74.6	80.1
5	**Chemicals and related products, n.e.s.**	98.4	98.5	98.7	98.1	96.9	96.2	94.9	94.1	93.8	93.8	93.6	92.8	92.1
54	Medicinal and pharmaceutical products	99.6	99.4	99.2	99.6	99.5	99.5	100.2	100.8	101.1	100.9	100.9	100.9	101.1
55	Essential oils; polishing and cleaning preparations	100.1	99.9	100.2	99.8	99.7	99.7	99.1	99.0	99.1	99.0	98.9	98.8	97.1
57	Plastics in primary forms	95.5	96.5	97.8	96.1	94.9	93.9	91.2	90.0	88.6	89.2	88.5	86.5	85.4
58	Plastics in nonprimary forms	97.4	97.3	97.6	97.6	97.0	97.4	98.0	96.9	97.2	95.9	95.8	95.8	95.6
59	Chemical materials and products, n.e.s.	99.0	99.1	99.1	99.3	98.9	99.1	98.7	98.7	99.0	98.6	98.7	97.6	7.8
6	**Manufactured goods classified chiefly by materials**	100.9	100.4	100.2	99.9	99.7	99.5	99.1	98.4	98.2	97.3	96.6	96.7	97.3
62	Rubber manufactures, n.e.s.	100.1	100.0	100.4	99.7	99.8	99.8	100.5	101.0	101.0	100.6	100.5	100.9	100.4
64	Paper, paperboard, and articles of paper, pulp, and paperboard	99.1	99.0	98.4	98.1	98.0	97.4	95.1	95.1	95.6	95.1	95.2	95.2	95.2
66	Nonmetallic mineral manufactures, n.e.s.	100.1	100.0	99.8	100.3	100.4	100.8	100.8	101.0	101.1	101.1	101.4	101.7	101.4
68	Nonferrous metals	107.3	106.3	104.9	101.6	100.0	98.0	97.0	93.0	90.2	86.9	81.8	83.1	85.3
7	**Machinery and transport equipment**	100.2	100.3	100.6	100.5	100.4	100.3	100.2	100.0	100.0	99.7	99.7	99.6	99.4
71	Power generating machinery and equipment	102.5	102.6	102.0	102.3	102.3	102.3	102.4	102.8	103.0	103.1	104.1	104.0	105.2
72	Machinery specialized for particular industries	100.4	100.6	100.5	100.3	100.3	100.3	99.6	99.5	99.5	100.6	100.5	100.5	100.7
74	General industrial machines and parts, n.e.s., and machine parts	100.6	100.8	101.0	101.3	101.3	101.3	101.8	101.8	101.9	101.8	101.9	101.7	102.1
75	Computer equipment and office machines	99.3	98.3	97.8	97.7	96.9	95.9	95.6	94.8	94.8	94.6	94.2	92.9	92.4
76	Telecommunications and sound recording and reproducing apparatus and equipment	99.8	99.8	99.8	99.8	99.7	99.8	99.8	98.7	98.5	98.0	98.0	97.7	97.9
77	Electrical machinery and equipment	99.1	99.2	99.2	98.7	98.7	98.3	97.8	97.7	97.6	95.9	95.9	95.9	94.9
78	Road vehicles	100.2	100.1	100.2	100.2	100.2	100.2	100.3	100.2	100.2	100.3	100.2	100.3	100.3
87	**Professional, scientific, and controlling instruments and apparatus**	100.7	100.8	100.8	100.6	100.8	100.9	100.8	100.8	100.9	101.0	100.9	100.9	100.8

U.S. import price indexes by Standard International Trade Classification

000 = 100]

SITC Rev. 3	Industry	2001												2002
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
0	**Food and live animals**	100.6	99.9	100.9	98.4	97.3	96.0	95.1	94.9	95.1	94.7	95.1	94.8	95.5
01	Meat and meat preparations	97.2	97.8	102.2	104.4	106.3	106.2	109.3	108.9	113.5	114.8	118.0	109.8	105.4
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	97.7	96.2	93.0	91.2	90.7	90.0	87.0	86.8	86.3	84.6	82.8	82.9	82.3
05	Vegetables, fruit, and nuts, prepared fresh or dry	106.7	102.3	110.1	102.9	101.1	97.6	98.4	98.2	98.5	99.1	101.5	99.3	105.4
07	Coffee, tea, cocoa, spices, and manufactures thereof	86.9	88.0	88.7	89.6	87.4	85.8	81.2	78.8	80.1	77.3	77.2	78.5	77.5
1	**Beverages and tobacco**	100.6	100.7	100.4	100.6	102.0	101.7	101.7	102.1	1-2.0	102.7	102.6	103.0	102.9
11	Beverages	100.9	101.1	100.8	101.0	102.7	102.4	102.4	102.4	102.4	102.6	102.6	103.1	103.2
2	**Crude materials, inedible, except fuels**	95.9	97.5	94.5	95.0	98.1	102.8	96.4	95.8	96.6	94.5	91.3	89.9	90.9
24	Cork and wood	88.0	89.8	89.8	94.7	104.9	122.1	108.2	109.6	112.2	105.1	97.5	91.7	92.6
25	Pulp and waste paper	107.5	105.6	102.5	98.3	92.4	87.1	83.5	79.3	77.3	76.8	78.0	77.7	84.8
28	Metalliferous ores and metal scrap	99.2	99.4	96.6	96.5	95.5	93.9	94.4	93.1	92.8	91.6	89.8	91.2	91.4
29	Crude animal and vegetable materials, n.e.s.	96.1	108.6	92.0	86.5	94.9	92.9	80.8	81.0	83.8	93.4	93.1	96.0	92.2
3	**Mineral fuels, lubricants, and related products**	104.3	100.1	90.8	90.2	93.1	90.4	94.4	85.6	85.8	72.3	65.0	61.2	64.0
33	Petroleum, petroleum products, and related materials	90.8	92.0	86.5	85.8	90.0	89.3	84.4	86.1	86.8	73.0	63.0	59.8	62.7
34	Gas, natural and manufactured	195.3	154.3	119.1	119.0	113.7	97.4	82.8	80.9	77.8	65.7	75.9	68.7	70.5
5	**Chemicals and related products, n.e.s.**	101.6	102.2	102.4	102.2	101.6	100.5	99.3	98.4	98.3	98.8	97.8	97.5	97.7
52	Inorganic chemicals	107.8	108.2	107.2	104.0	101.2	100.1	99.4	98.0	98.1	99.4	98.9	97.6	97.0
53	Dying, tanning, and coloring materials	101.2	102.2	101.4	100.8	100.2	98.1	95.6	95.7	96.3	97.1	96.8	97.1	97.8
54	Medicinal and pharmaceutical products	98.0	97.8	97.5	96.9	96.7	96.7	99.0	97.3	97.0	97.5	97.3	97.0	97.0
55	Essential oils; polishing and cleaning preparations	98.0	99.3	99.7	99.0	98.7	98.4	98.1	98.1	99.7	99.8	99.7	100.1	100.1
57	Plastics in primary forms	100.9	100.8	101.1	101.1	101.1	102.1	102.1	100.5	99.7	99.8	99.8	99.8	98.6
58	Plastics in nonprimary forms	100.2	105.4	105.3	103.8	103.6	102.4	100.7	100.7	99.3	101.6	101.1	100.9	100.7
59	Chemical materials and products, n.e.s.	100.9	101.1	101.4	100.9	100.1	99.9	99.1	99.0	99.0	99.2	98.6	97.8	96.0
6	**Manufactured goods classified chiefly by materials**	101.0	101.5	100.0	99.1	98.2	98.0	96.8	95.0	94.8	93.8	92.4	92.0	92.4
62	Rubber manufactures, n.e.s.	99.7	99.8	99.7	99.4	99.4	99.0	98.8	98.7	98.7	98.5	97.8	97.9	97.4
64	Paper, paperboard, and articles of paper, pulp, and paperboard	102.9	103.5	103.6	104.7	103.7	102.7	101.7	99.9	99.3	98.6	97.6	96.1	95.0
66	Nonmetallic mineral manufactures, n.e.s.	100.0	99.9	99.9	99.6	99.7	99.4	99.3	99.1	99.3	97.5	97.2	97.5	97.2
68	Nonferrous metals	108.7	111.3	104.6	99.6	96.1	95.3	91.0	83.4	82.2	78.7	73.7	73.8	76.4
69	Manufactures of metals, n.e.s.	99.7	99.1	99.3	100.1	100.0	100.1	99.3	99.3	99.3	99.7	99.5	99.0	99.0
7	**Machinery and transport equipment**	99.4	99.2	99.2	98.7	98.5	98.5	98.2	98.1	98.0	98.0	97.9	97.7	97.5
72	Machinery specialized for particular industries	99.3	99.8	99.7	99.5	99.2	99.1	98.5	98.6	99.1	99.2	99.0	98.7	98.5
74	General industrial machines and parts, n.e.s., and machine parts	99.6	99.6	99.3	98.8	98.3	98.2	98.0	97.8	98.0	98.7	98.1	97.8	98.0
75	Computer equipment and office machines	97.1	96.3	95.7	94.1	93.9	93.6	92.1	91.7	90.0	89.1	89.0	88.8	88.6
76	Telecommunications and sound recording and reproducing apparatus and equipment	98.4	98.2	98.1	97.3	97.1	97.2	97.3	97.1	96.8	96.5	96.4	96.3	95.6
77	Electrical machinery and equipment	99.3	99.0	99.9	99.3	99.2	98.8	98.9	98.7	98.6	98.7	98.6	97.0	97.6
78	Road vehicles	100.1	100.1	100.1	99.9	99.7	99.8	99.7	88.7	100.0	100.3	100.2	100.3	100.1
85	Footwear	100.3	100.4	100.8	100.4	100.2	100.1	100.1	100.5	100.4	99.9	99.9	100.3	99.4
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	99.9	99.9	99.7	98.9	98.8	98.5	97.9	97.9	98.2	98.6	98.5	98.4	97.6

40. U.S. export price indexes by end-use category

[2000 = 100]

Category	2001												2002
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
ALL COMMODITIES	100.3	100.2	100.0	99.9	99.6	99.4	99.0	98.8	99.0	98.3	97.8	97.6	97.5
Foods, feeds, and beverages	102.1	100.2	101.0	100.2	99.8	100.4	101.7	102.6	102.6	101.2	99.7	100.6	101.7
Agricultural foods, feeds, and beverages	102.2	100.4	101.2	100.6	100.6	101.2	102.4	104.0	103.6	102.2	100.7	101.6	102.5
Nonagricultural (fish, beverages) food products	100.4	98.8	99.4	97.0	92.7	92.6	94.8	90.2	92.9	91.9	90.9	90.4	94.3
Industrial supplies and materials	100.0	99.9	98.9	98.7	98.0	97.2	95.5	94.8	95.2	93.6	92.3	91.4	91.4
Agricultural industrial supplies and materials	103.9	104.2	101.7	101.7	102.1	99.3	98.5	97.2	96.8	93.8	92.1	93.3	92.3
Fuels and lubricants	104.2	105.6	100.3	103.9	106.0	102.8	96.9	97.6	103.2	93.6	88.5	83.5	85.0
Nonagricultural supplies and materials, excluding fuel and building materials	99.1	98.8	98.5	97.8	96.5	96.1	94.9	94.0	93.8	93.4	92.8	92.3	92.2
Selected building materials	99.0	98.4	97.5	96.8	96.3	97.0	97.0	96.8	95.5	95.1	94.4	94.1	94.2
Capital goods	100.3	100.4	100.6	100.5	100.4	100.3	100.2	100.0	100.0	99.7	99.7	99.4	99.1
Electric and electrical generating equipment	100.8	101.3	100.9	101.3	101.7	101.7	101.8	101.5	101.6	101.6	101.6	101.5	102.3
Nonelectrical machinery	99.7	99.8	99.7	99.5	99.4	99.1	98.9	98.6	98.6	98.2	98.1	97.7	97.2
Automotive vehicles, parts, and engines	100.3	100.2	100.3	100.5	100.5	100.4	100.5	100.5	100.4	100.5	100.4	100.5	100.8
Consumer goods, excluding automotive	99.8	99.7	99.6	99.5	99.4	99.4	99.5	99.5	99.7	99.7	99.8	99.9	99.4
Nondurables, manufactured	99.7	99.2	99.0	98.9	98.9	99.0	98.9	98.9	99.1	99.0	99.1	99.1	98.1
Durables, manufactured	100.1	100.2	100.2	100.1	99.9	100.0	100.2	100.2	100.4	100.6	100.5	100.5	100.7
Agricultural commodities	102.5	101.0	101.3	100.8	100.8	100.9	101.8	102.8	102.5	100.7	99.2	100.2	100.8
Nonagricultural commodities	100.1	100.1	99.9	99.8	99.5	99.3	98.8	98.5	98.6	98.1	97.7	97.3	97.2

41. U.S. import price indexes by end-use category

[2000 = 100]

Category	2001												2002
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
ALL COMMODITIES	100.5	99.9	98.3	97.8	98.0	97.6	96.1	96.0	95.9	93.7	92.3	91.4	91.8
Foods, feeds, and beverages	99.1	98.0	98.9	97.0	96.6	95.4	94.4	94.5	95.0	94.5	95.2	94.6	95.9
Agricultural foods, feeds, and beverages	99.5	98.4	101.0	98.9	98.4	97.0	96.7	96.9	97.8	97.8	99.5	98.3	100.2
Nonagricultural (fish, beverages) food products	98.2	97.0	94.5	3.1	92.9	92.2	89.7	89.5	89.2	87.8	86.4	86.8	87.1
Industrial supplies and materials	102.8	101.1	96.0	95.4	96.5	95.5	91.4	91.0	91.0	84.3	79.9	77.6	79.2
Fuels and lubricants	104.9	100.5	91.1	90.4	93.4	90.9	84.8	86.0	86.1	72.9	65.7	61.6	64.6
Petroleum and petroleum products	93.1	93.3	87.2	86.2	90.3	89.4	84.6	86.1	86.7	73.4	63.6	59.9	63.1
Paper and paper base stocks	104.6	104.8	104.4	104.6	102.2	100.0	98.0	95.1	93.9	93.1	92.3	90.7	91.7
Materials associated with nondurable supplies and materials	102.5	102.7	102.8	102.2	101.4	100.3	98.6	98.0	97.9	98.0	96.7	96.2	96.2
Selected building materials	91.0	91.7	91.9	93.9	100.1	111.1	103.0	102.9	103.7	99.9	96.1	92.9	93.1
Unfinished metals associated with durable goods	102.8	104.2	99.5	96.9	94.2	93.6	91.4	87.4	87.1	85.1	82.1	82.1	83.4
Nonmetals associated with durable goods	100.4	101.4	101.6	101.2	100.9	100.6	100.1	100.2	100.4	99.9	98.9	99.0	98.5
Capital goods	98.8	98.6	98.7	98.0	97.8	97.7	97.3	97.1	96.8	96.7	96.5	96.2	96.0
Electric and electrical generating equipment	99.8	99.6	102.1	101.6	101.8	101.8	101.6	101.3	101.4	101.4	101.2	100.6	100.0
Nonelectrical machinery	98.5	98.2	98.0	97.1	96.9	96.7	96.2	96.0	95.6	95.4	95.3	94.9	94.7
Automotive vehicles, parts, and engines	100.2	100.1	100.1	100.0	99.8	99.8	99.7	99.6	99.9	100.1	100.0	100.1	99.9
Consumer goods, excluding automotive	99.7	99.7	99.8	99.5	99.5	99.3	99.2	99.2	99.1	98.9	98.8	98.7	98.8
Nondurables, manufactured	99.8	99.8	100.2	100.1	100.0	99.8	100.0	100.0	99.6	99.6	99.6	99.7	99.8
Durables, manufactured	99.6	99.5	99.4	99.1	99.0	98.9	98.6	98.6	98.7	98.4	98.3	98.0	98.1
Nonmanufactured consumer goods	99.7	101.7	99.3	98.2	99.6	99.2	97.6	97.4	97.9	95.8	95.7	96.4	95.8

42. U.S. international price indexes for selected categories of services

[2000 = 100]

Category	1999	2000				2001			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Air freight (inbound)	102.8	100.7	100.1	100.2	99.0	97.9	95.1	94.9	95.2
Air freight (outbound)	99.2	99.2	100.3	100.2	100.2	100.1	98.0	97.6	97.9
Air passenger fares (U.S. carriers)	95.3	95.8	101.2	103.1	99.9	101.9	106.4	107.6	103.5
Air passenger fares (foreign carriers)	96.7	97.1	102.1	103.2	97.6	100.7	103.8	110.2	100.8
Ocean liner freight (inbound)	98.7	96.6	101.3	101.1	101.0	102.8	100.8	98.1	93.6

43. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	1998	1999				2000				2001			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	111.9	112.7	112.4	113.3	115.3	115.3	117.5	117.8	118.7	118.6	119.3	119.5	121.1
Compensation per hour	121.8	123.1	124.4	126.1	127.3	129.3	132.1	134.3	137.4	139.1	140.9	142.1	142.9
Real compensation per hour	105.8	106.6	106.9	107.5	107.7	108.4	110.0	110.8	112.5	112.8	113.4	114.1	114.9
Unit labor costs	108.8	109.2	110.7	111.3	110.4	112.2	113.5	114.0	115.8	117.3	118.1	118.9	119.1
Unit nonlabor payments	114.3	114.5	112.6	112.3	114.8	114.2	115.1	113.8	112.0	111.7	111.5	111.7	112.0
Implicit price deflator	10.8	111.2	111.4	111.7	112.0	112.9	113.5	113.9	114.4	115.2	115.7	116.2	115.8
Nonfarm business													
Output per hour of all persons	111.5	112.2	111.8	112.7	113.8	113.8	116.7	117.2	117.8	117.8	118.4	118.7	120.2
Compensation per hour	121.1	122.2	123.5	125.1	126.6	128.7	131.2	133.6	136.5	138.1	139.7	141.0	141.8
Real compensation per hour	105.3	105.8	106.1	106.8	107.1	107.9	109.2	110.2	111.8	112.0	112.4	113.2	114.0
Unit labor costs	108.6	109.0	110.4	111.1	110.2	112.1	112.5	114.0	115.8	117.2	118.0	118.7	117.9
Unit nonlabor payments	115.4	116.0	114.2	114.0	116.5	115.9	116.7	115.3	113.4	113.1	112.9	112.9	113.9
Implicit price deflator	111.1	111.5	111.8	112.1	112.5	113.5	114.0	114.5	114.9	115.7	116.1	116.1	116.4
Nonfinancial corporations													
Output per hour of all employees	113.3	114.5	114.7	115.4	116.4	117.2	118.8	119.6	119.8	119.9	120.9	121.2	–
Compensation per hour	117.9	119.1	120.4	121.9	123.2	125.0	127.6	129.7	132.7	134.5	136.5	138.1	–
Real compensation per hour	102.4	103.1	103.5	104.0	104.2	104.8	106.1	107.0	108.7	109.1	109.9	110.9	–
Total unit costs	103.9	103.7	104.5	105.4	105.6	106.5	107.1	108.1	110.0	111.4	112.5	114.0	–
Unit labor costs	104.1	104.1	104.9	105.6	105.8	106.6	107.4	108.5	110.8	112.2	112.9	114.0	–
Unit nonlabor costs	103.3	102.8	103.4	105.0	105.1	106.2	106.5	107.1	107.8	109.3	111.2	114.2	–
Unit profits	137.7	141.6	135.4	128.0	131.3	135.1	139.3	135.8	120.5	111.1	107.4	99.6	–
Unit nonlabor payments	112.1	112.7	111.6	110.8	111.8	113.6	114.8	114.4	111.0	109.8	110.2	110.4	–
Implicit price deflator	106.7	106.9	107.1	107.4	107.8	108.9	109.8	110.5	110.9	111.4	112.0	112.8	–
Manufacturing													
Output per hour of all persons	125.9	127.6	128.3	129.6	132.7	135.2	137.2	138.3	2 138.3	138.3	138.1	139.0	140.4
Compensation per hour	119.1	119.8	121.2	123.0	124.5	126.3	128.6	131.9	135.9	137.9	140.0	141.2	142.0
Real compensation per hour	103.4	103.7	104.2	104.9	105.4	105.9	107.0	108.8	111.3	111.8	112.6	113.4	114.2
Unit labor costs	94.6	93.9	94.4	94.9	93.8	93.4	93.8	95.4	97.6	99.7	101.3	101.5	101.2

44. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100, unless otherwise indicated]

Item	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Private business													
Productivity:													
Output per hour of all persons	45.6	63.0	75.8	90.2	91.3	94.8	95.4	96.6	97.3	100.0	102.0	104.8	104.8
Output per unit of capital services	110.4	111.1	101.5	99.3	96.1	97.7	98.5	100.3	99.7	100.0	100.5	100.1	100.1
Multifactor productivity	65.2	80.0	88.3	95.3	94.4	96.6	97.1	98.1	98.4	100.0	101.1	102.6	102.6
Output	27.5	42.0	59.4	83.6	82.6	85.7	88.5	92.8	95.8	100.0	105.2	110.6	110.6
Inputs:													
Labor input	54.0	61.0	71.9	89.4	88.3	89.3	91.8	95.6	98.0	100.0	103.7	106.4	106.4
Capital services	24.9	37.8	58.6	84.2	86.0	87.7	89.8	92.6	96.0	100.0	104.7	110.4	110.4
Combined units of labor and capital input	42.3	52.4	67.3	87.7	87.5	88.8	91.1	94.6	97.3	100.0	104.0	107.7	107.7
Capital per hour of all persons	41.3	56.7	74.7	90.8	95.0	97.0	96.8	96.3	97.6	100.0	101.5	104.7	104.7
Private nonfarm business													
Productivity:													
Output per hour of all persons	48.7	64.9	77.3	90.3	91.4	94.8	95.3	96.5	97.5	100.0	101.7	104.5	104.5
Output per unit of capital services	120.1	118.3	105.7	100.0	96.6	97.9	98.8	100.3	99.9	100.0	100.2	99.8	99.8
Multifactor productivity	69.1	82.6	90.5	95.6	94.7	96.6	97.1	98.1	98.6	100.0	100.9	102.4	102.4
Output	27.2	41.9	59.6	83.5	82.5	85.5	88.4	92.6	95.8	100.0	105.1	110.6	110.6
Inputs:													
Labor input	50.1	59.3	70.7	89.2	88.0	89.0	91.8	95.4	97.8	100.0	103.8	106.6	106.6
Capital services	22.6	35.5	56.4	83.5	85.4	87.3	89.5	92.3	95.9	100.0	104.9	110.8	110.8
Combined units of labor and capital input	39.3	50.7	65.9	87.3	87.1	88.4	91.0	94.4	97.2	100.0	104.2	108.0	108.0
Capital per hour of all persons	40.5	54.8	73.1	90.3	94.7	96.8	96.5	96.3	97.6	100.0	101.5	104.7	104.7
Manufacturing (1992 = 100)													
Productivity:													
Output per hour of all persons	41.8	54.2	70.1	92.8	95.0	100.0	101.9	105.0	109.0	112.8	117.1	124.3	124.3
Output per unit of capital services	124.3	116.5	100.9	101.6	97.5	100.0	101.1	104.0	105.0	104.5	105.6	106.5	106.5
Multifactor productivity	72.7	84.4	86.6	99.3	98.3	100.0	100.4	102.6	105.0	106.1	109.8	113.2	113.2
Output	38.5	56.5	75.3	97.3	95.4	100.0	103.3	108.7	113.4	116.9	123.5	130.7	130.7
Inputs:													
Hours of all persons	92.0	104.2	107.5	104.8	100.4	100.0	101.4	103.6	104.0	103.7	105.5	105.2	105.2
Capital services	30.9	48.5	74.7	95.8	97.9	100.0	102.2	104.5	108.0	111.9	116.9	122.8	122.8
Energy	51.3	85.4	92.5	99.9	100.1	100.0	103.7	107.3	109.5	107.0	103.9	109.2	109.2
Nonenergy materials	38.2	44.8	75.0	92.5	93.6	100.0	105.7	111.3	112.8	120.4	120.4	127.2	127.2
Purchased business services	28.2	48.8	73.7	92.5	92.1	100.0	103.0	105.1	110.0	108.9	114.2	116.8	116.8
Combined units of all factor inputs	52.9	67.0	87.0	98.0	97.0	100.0	102.9	106.0	107.9	110.2	112.5	115.5	115.5

45. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999
Business												
Output per hour of all persons	48.8	67.0	80.4	95.2	96.3	100.5	101.9	102.6	105.4	107.8	110.8	113.8
Compensation per hour	13.7	23.5	54.2	90.7	95.0	102.5	104.5	106.7	110.1	113.5	119.6	125.1
Real compensation per hour	60.0	78.9	89.4	96.5	97.5	99.9	99.7	99.3	99.7	100.6	104.6	107.1
Unit labor costs	28.0	35.1	67.4	95.3	98.7	101.9	102.6	104.1	104.5	105.3	108.0	109.9
Unit nonlabor payments	25.2	31.6	61.5	93.9	97.0	102.5	106.4	109.4	113.3	117.1	115.1	115.1
Implicit price deflator	27.0	33.9	65.2	94.8	98.1	102.2	104.0	106.0	107.7	109.7	110.6	111.8
Nonfarm business												
Output per hour of all persons	51.9	68.9	82.0	95.3	96.4	100.5	101.8	102.8	105.4	107.5	110.4	113.2
Compensation per hour	14.3	23.7	54.6	90.5	95.0	102.2	104.3	106.6	109.8	113.1	119.0	124.2
Real compensation per hour	62.8	79.5	90.0	96.3	97.5	99.6	99.5	99.2	99.4	100.2	104.0	106.4
Unit labor costs	27.5	34.4	66.5	95.0	98.5	101.7	102.5	103.7	104.2	105.2	107.7	109.7
Unit nonlabor payments	24.6	31.3	60.5	93.6	97.1	103.0	106.9	110.4	113.5	118.0	116.3	116.8
Implicit price deflator	26.5	33.3	64.3	94.5	98.0	102.2	104.1	106.1	107.6	109.8	110.8	112.3
Nonfinancial corporations												
Output per hour of all employees	55.4	70.4	81.1	95.4	97.7	100.7	103.1	104.2	107.5	108.4	112.3	116.2
Compensation per hour	15.6	25.3	56.4	90.8	95.3	102.0	104.2	106.2	109.0	110.3	115.9	121.1
Real compensation per hour	68.3	84.7	93.1	96.7	97.8	99.5	99.4	98.8	98.7	97.8	101.3	103.7
Total unit costs	26.8	34.8	68.4	95.9	98.8	101.0	101.1	102.0	101.2	101.5	102.6	103.7
Unit labor costs	28.1	35.9	69.6	95.2	97.5	101.3	101.0	101.9	101.4	101.8	103.2	104.2
Unit nonlabor costs	23.3	31.9	65.1	98.0	102.1	100.2	101.3	102.2	100.6	100.9	101.2	102.5
Unit profits	50.2	44.4	68.8	94.3	93.0	113.2	131.7	139.0	152.2	156.9	148.9	147.6
Unit nonlabor payments	30.2	35.1	66.0	97.1	99.7	103.5	109.0	111.6	113.8	115.2	113.4	114.0
Implicit price deflator	28.8	35.6	68.4	95.8	98.3	102.1	103.7	105.1	105.5	106.2	106.6	107.4
Manufacturing												
Output per hour of all persons	41.8	54.2	70.1	92.8	95.0	101.9	105.0	109.0	112.8	117.1	124.3	129.6
Compensation per hour	14.9	23.7	55.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	122.0
Real compensation per hour	65.2	79.5	91.7	96.6	98.1	100.2	100.8	100.4	99.0	98.8	102.6	104.5
Unit labor costs	35.6	43.8	79.3	97.8	100.6	100.8	100.7	99.0	96.9	95.1	94.4	94.1
Unit nonlabor payments	26.8	29.3	80.2	99.7	99.0	100.9	102.8	106.9	109.9	109.6	104.4	105.5
Implicit price deflator	30.2	34.9	79.8	99.0	99.6	100.9	102.0	103.9	104.9	104.0	100.5	101.1

Dash indicates data not available.

46. Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Mining											
Copper ores	102	102.7	100.5	115.2	118.1	126.0	117.2	116.5	118.9	118.3	105.5
Gold and silver ores	104	122.3	127.4	141.6	159.8	160.8	144.2	138.3	158.5	187.6	200.0
Bituminous coal and lignite mining	122	118.7	122.4	133.0	141.2	148.1	155.9	168.0	176.6	188.0	192.2
Crude petroleum and natural gas	131	97.0	97.9	102.1	105.9	112.4	119.4	123.9	125.2	127.4	132.3
Crushed and broken stone	142	102.2	99.8	105.0	103.6	108.7	105.4	107.2	112.6	110.2	104.8
Manufacturing											
Meat products	201	97.1	99.6	104.6	104.3	101.2	102.3	97.4	102.5	102.3	102.2
Dairy products	202	107.3	108.3	111.4	109.6	111.8	116.4	116.0	119.3	119.3	114.1
Preserved fruits and vegetables	203	95.6	99.2	100.5	106.8	107.6	109.1	109.2	110.7	117.8	120.0
Grain mill products	204	105.4	104.9	107.8	109.2	108.4	115.4	108.0	118.2	126.2	130.4
Bakery products	205	92.7	90.6	93.8	94.4	96.4	97.3	95.6	99.1	100.8	107.5
Sugar and confectionery products	206	103.2	102.0	99.8	104.5	106.2	108.3	113.8	116.7	123.0	130.0
Fats and oils	207	118.1	120.1	114.1	112.6	111.8	120.3	110.1	120.2	137.3	156.1
Beverages	208	117.0	120.0	127.1	126.4	130.1	133.5	135.0	135.5	136.4	132.4
Miscellaneous food and kindred products	209	99.2	101.7	101.5	105.2	100.9	102.9	109.1	104.1	112.7	116.3
Cigarettes	211	113.2	107.6	111.6	106.5	126.6	142.9	147.2	147.2	152.2	135.8
Broadwoven fabric mills, cotton	221	103.1	111.2	110.3	117.8	122.1	134.0	137.3	131.2	136.2	138.7
Broadwoven fabric mills, manmade	222	111.3	116.2	126.2	131.7	142.5	145.3	147.6	162.2	168.6	171.9
Narrow fabric mills	224	96.5	99.6	112.9	111.4	120.1	118.9	126.3	110.8	117.7	122.4
Knitting mills	225	107.5	114.0	119.3	127.9	134.1	138.3	150.3	138.0	135.9	144.8
Textile finishing, except wool	226	83.4	79.9	78.6	79.3	81.2	78.5	79.2	94.3	99.1	101.0
Carpets and rugs	227	93.2	89.2	96.1	97.1	93.3	95.8	100.2	100.3	102.3	97.8
Yarn and thread mills	228	110.2	111.4	119.6	126.6	130.7	137.4	147.4	150.4	153.0	169.5
Miscellaneous textile goods	229	109.2	104.6	106.5	110.4	118.5	123.7	123.1	118.7	120.1	127.0
Men's and boys' furnishings	232	102.1	108.4	109.1	108.4	111.7	123.4	134.7	162.1	174.7	187.0
Women's and misses' outerwear	233	104.1	104.3	109.4	121.8	127.4	135.5	141.6	149.9	151.9	174.5
Women's and children's undergarments	234	102.1	113.7	117.4	124.5	138.0	161.3	174.5	208.9	216.4	293.0
Hats, caps, and millinery	235	89.2	91.1	93.6	87.2	77.7	84.3	82.2	87.1	99.5	108.7
Miscellaneous apparel and accessories	238	90.6	91.8	91.3	94.0	105.5	116.8	120.1	101.4	107.7	105.8
Miscellaneous fabricated textile products	239	99.9	100.7	107.5	108.5	107.8	109.2	105.6	119.2	117.2	129.2
Sawmills and planing mills	242	99.8	102.6	108.1	101.9	103.3	110.2	115.6	116.9	118.7	125.4
Millwork, plywood, and structural members	243	98.0	98.0	99.9	97.0	94.5	92.7	92.4	89.1	91.3	90.7
Wood containers	244	111.2	113.1	109.4	100.1	100.9	106.1	106.7	106.2	106.6	105.0
Wood buildings and mobile homes	245	103.1	103.0	103.1	103.8	98.3	97.0	96.7	100.3	99.2	96.8
Miscellaneous wood products	249	107.7	110.5	114.2	115.3	111.8	115.4	114.4	123.4	131.2	141.3
Household furniture	251	104.5	107.1	110.5	110.6	112.5	116.9	121.6	121.3	125.8	128.7
Office furniture	252	95.0	94.1	102.5	103.2	100.5	101.1	106.4	118.3	113.1	109.8
Public building and related furniture	253	119.8	120.2	140.6	161.0	157.4	173.3	181.5	214.9	207.6	210.9
Partitions and fixtures	254	95.6	93.0	102.7	107.4	98.9	101.2	97.5	121.1	125.6	127.0
Miscellaneous furniture and fixtures	259	103.5	102.1	99.5	103.6	104.7	110.0	113.2	110.7	121.9	122.7
Pulp mills	261	116.7	128.3	137.3	122.5	128.9	131.9	132.6	82.3	86.6	88.4
Paper mills	262	102.3	99.2	103.3	102.4	110.2	118.6	111.6	112.0	114.9	122.7
Paperboard mills	263	100.6	101.4	104.4	108.4	114.9	119.5	118.0	126.7	127.8	131.0
Paperboard containers and boxes	265	101.3	103.4	105.2	107.9	108.4	105.1	106.3	109.7	113.5	113.5
Miscellaneous converted paper products	267	101.4	105.3	105.5	107.9	110.6	113.3	113.6	119.5	122.9	127.3
Newspapers	271	90.6	85.8	81.5	79.4	79.9	79.0	77.4	79.0	83.6	86.3
Periodicals	272	93.9	89.5	92.9	89.5	81.9	87.8	89.1	100.1	115.0	115.1
Books	273	96.6	100.8	97.7	103.5	103.0	101.6	99.3	102.6	101.0	105.4
Miscellaneous publishing	274	92.2	95.9	105.8	104.5	97.5	94.8	93.6	114.5	119.5	128.3
Commercial printing	275	102.5	102.0	108.0	106.9	106.5	107.2	108.3	108.8	109.9	115.2
Manifold business forms	276	93.0	89.1	94.5	91.1	82.0	76.9	75.2	77.9	76.7	73.6
Greeting cards	277	100.6	92.7	96.7	91.4	89.0	92.5	90.8	92.2	104.2	103.9
Blankbooks and bookbinding	278	99.4	96.1	103.6	98.7	105.4	108.7	114.5	114.2	116.4	123.3
Printing trade services	279	99.3	100.6	112.0	115.3	111.0	116.7	126.2	123.3	126.7	120.5
Industrial inorganic chemicals	281	106.8	109.7	109.7	105.6	102.3	109.3	110.1	116.8	145.8	170.7
Plastics materials and synthetics	282	100.9	100.0	107.5	112.0	125.3	128.3	125.3	135.4	142.2	145.7
Drugs	283	103.8	104.5	99.5	99.7	104.6	108.7	112.5	112.4	104.3	104.8
Soaps, cleaners, and toilet goods	284	103.8	105.3	104.4	108.7	111.2	118.6	120.9	126.4	122.7	116.8
Paints and allied products	285	106.3	104.3	102.9	108.8	116.7	118.0	125.6	126.4	126.8	125.6
Industrial organic chemicals	286	101.4	95.8	94.6	92.2	99.9	98.6	99.0	111.2	105.7	111.3
Agricultural chemicals	287	104.7	99.5	99.5	103.8	105.0	108.5	110.0	119.8	117.5	106.9

See footnotes at end of table.

46. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Miscellaneous chemical products	289	97.3	96.1	101.8	107.1	105.7	107.8	110.1	120.3	120.6	128.1
Petroleum refining	291	109.2	106.6	111.3	120.1	123.8	132.3	142.0	149.2	155.7	169.5
Asphalt paving and roofing materials	295	98.0	94.1	100.4	108.0	104.9	111.2	113.1	123.1	124.7	115.7
Miscellaneous petroleum and coal products	299	94.8	90.6	101.5	104.2	96.3	87.4	87.1	96.5	98.5	90.7
Tires and inner tubes	301	103.0	102.4	107.8	116.5	124.1	131.1	138.8	149.1	144.2	145.5
Hose and belting and gaskets and packing	305	96.1	92.4	97.8	99.7	102.7	104.6	107.4	113.5	112.7	114.0
Fabricated rubber products, n.e.c.	306	109.0	109.9	115.2	123.1	119.1	121.5	121.0	125.3	132.3	140.8
Miscellaneous plastics products, n.e.c.	308	105.7	108.3	114.4	116.7	120.8	121.0	124.7	129.9	133.8	141.2
Footwear, except rubber	314	101.1	94.4	104.2	105.2	113.0	117.1	126.1	121.4	110.9	131.6
Flat glass	321	84.5	83.6	92.7	97.7	97.6	99.6	101.5	107.6	114.0	127.7
Glass and glassware, pressed or blown	322	104.8	102.3	108.9	108.7	112.9	115.7	121.4	128.3	135.2	143.6
Products of purchased glass	323	92.6	97.7	101.5	106.2	105.9	106.1	122.0	125.1	122.0	134.0
Cement, hydraulic	324	112.4	108.3	115.1	119.9	125.6	124.3	128.7	133.1	134.1	139.6
Structural clay products	325	109.6	109.8	111.4	106.8	114.0	112.6	119.6	111.9	114.8	124.0
Pottery and related products	326	98.6	95.8	99.5	100.3	108.4	109.3	119.3	123.2	127.1	120.8
Concrete, gypsum, and plaster products	327	102.3	101.2	102.5	104.6	101.5	104.5	107.3	107.6	112.8	114.4
Miscellaneous nonmetallic mineral products	329	95.4	94.0	104.3	104.5	106.3	107.8	110.4	114.6	114.7	114.6
Blast furnace and basic steel products	331	109.7	107.8	117.0	133.6	142.4	142.6	147.5	155.0	151.0	148.9
Iron and steel foundries	332	106.1	104.5	107.2	112.1	113.0	112.7	116.2	120.8	121.1	126.2
Primary nonferrous metals	333	102.3	110.7	101.9	107.9	105.3	111.0	110.8	112.0	125.8	131.2
Nonferrous rolling and drawing	335	92.7	91.0	96.0	98.3	101.2	99.2	104.0	111.3	115.2	122.7
Nonferrous foundries (castings)	336	104.0	103.6	103.6	108.5	112.1	117.8	122.3	127.0	131.5	130.8
Miscellaneous primary metal products	339	113.7	109.1	114.5	111.3	134.5	152.2	149.6	136.2	140.0	150.4
Metal cans and shipping containers	341	117.6	122.9	127.8	132.3	140.9	144.2	155.2	160.3	163.8	160.3
Cutlery, handtools, and hardware	342	97.3	96.8	100.1	104.0	109.2	111.3	118.2	114.6	115.7	123.9
Plumbing and heating, except electric	343	102.6	102.0	98.4	102.0	109.1	109.2	118.6	127.3	130.3	126.9
Fabricated structural metal products	344	98.8	100.0	103.9	104.8	107.7	105.8	106.5	111.9	112.7	112.7
Metal forgings and stampings	346	95.6	92.9	103.7	108.7	108.5	109.3	113.6	120.2	125.9	130.3
Metal services, n.e.c.	347	104.7	99.4	111.6	120.6	123.0	127.7	128.4	124.4	127.3	127.9
Ordnance and accessories, n.e.c.	348	82.1	81.5	88.6	84.6	83.6	87.6	87.5	93.7	96.6	92.2
Miscellaneous fabricated metal products	349	97.5	97.4	101.1	102.0	103.2	106.6	108.3	107.7	111.5	110.3
Engines and turbines	351	106.5	105.8	103.3	109.2	122.3	122.7	136.6	136.9	145.9	151.2
Farm and garden machinery	352	116.5	112.9	113.9	118.6	125.0	134.7	137.2	141.2	148.5	125.5
Construction and related machinery	353	107.0	99.1	102.0	108.2	117.7	122.1	123.3	132.5	137.5	137.2
Metalworking machinery	354	101.1	96.4	104.3	107.4	109.9	114.8	114.9	119.2	119.8	123.5
Special industry machinery	355	107.5	108.3	106.0	113.6	121.2	132.3	134.0	131.7	125.1	139.3
General industrial machinery	356	101.5	101.6	101.6	104.8	106.7	109.0	109.4	110.0	111.2	111.4
Computer and office equipment	357	138.1	149.6	195.7	258.6	328.6	469.4	681.3	960.2	1350.6	1840.2
Refrigeration and service machinery	358	103.6	100.7	104.9	108.6	110.7	112.7	114.7	115.0	121.4	123.2
Industrial machinery, n.e.c.	359	107.3	109.0	117.0	118.5	127.4	138.8	141.4	129.3	127.5	134.3
Electric distribution equipment	361	106.3	106.5	119.6	122.2	131.8	143.0	143.9	142.8	147.5	146.6
Electrical industrial apparatus	362	107.7	107.1	117.1	132.9	134.9	150.8	154.3	164.2	162.3	162.9
Household appliances	363	105.8	106.5	115.0	123.4	131.4	127.3	127.4	142.9	150.3	150.2
Electric lighting and wiring equipment	364	99.9	97.5	105.7	107.8	113.4	113.7	116.9	121.8	129.2	132.4
Communications equipment	366	123.8	129.1	154.9	163.0	186.4	200.6	229.5	275.3	276.0	327.1
Electronic components and accessories	367	133.4	154.7	189.3	217.9	274.1	401.5	514.9	613.4	768.0	107.0
Miscellaneous electrical equipment & supplies	369	90.6	98.6	101.3	108.2	110.5	114.1	123.1	128.3	135.3	140.7
Motor vehicles and equipment	371	102.4	96.6	104.2	106.2	108.8	106.7	107.2	116.3	125.2	136.5
Aircraft and parts	372	98.9	108.2	112.3	115.2	109.6	107.9	113.0	114.7	140.1	139.6
Ship and boat building and repairing	373	103.7	96.3	102.7	106.2	103.8	98.0	99.2	105.3	102.0	112.6
Railroad equipment	374	141.1	146.9	147.9	151.0	152.5	150.0	148.3	184.2	189.1	205.1
Motorcycles, bicycles, and parts	375	93.8	99.8	108.4	130.9	125.1	120.3	125.5	120.4	127.7	121.4
Guided missiles, space vehicles, parts	376	116.5	110.5	110.5	122.1	118.9	121.0	129.4	136.5	142.4	158.2
Search and navigation equipment	381	112.7	118.9	122.1	129.1	132.1	149.5	142.2	149.5	149.1	139.7
Measuring and controlling devices	382	106.4	113.1	119.9	124.0	133.8	146.4	150.5	142.4	143.5	152.9
Medical instruments and supplies	384	116.9	118.7	123.5	127.3	126.7	131.5	139.8	147.4	158.6	160.2
Ophthalmic goods	385	121.2	125.1	144.5	157.8	160.6	167.2	188.2	196.3	199.1	229.5
Photographic equipment & supplies	386	107.8	110.2	116.4	126.9	132.7	129.5	128.7	121.5	124.8	147.2
Jewelry, silverware, and plated ware	391	99.3	95.8	96.7	96.7	99.5	100.2	102.6	114.2	113.1	133.9
Musical instruments	393	97.1	96.9	96.0	95.6	88.7	86.9	78.8	82.9	81.4	86.4

See footnotes at end of table.

46. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Toys and sporting goods	394	108.1	109.7	104.9	114.2	109.7	113.6	119.9	125.7	131.6	124.0
Pens, pencils, office, and art supplies	395	118.2	116.8	111.3	111.6	129.9	135.2	144.1	127.5	132.5	129.3
Costume jewelry and notions	396	105.3	106.7	110.8	115.8	129.0	143.7	142.2	118.0	131.2	150.2
Miscellaneous manufactures	399	106.5	109.2	109.5	107.7	106.1	108.1	112.8	109.4	108.5	111.2
Transportation											
Railroad transportation	4011	118.5	127.8	139.6	145.4	150.3	156.2	167.0	169.8	173.3	182.3
Trucking, except local [1]	4213	111.1	116.9	123.4	126.6	129.5	125.4	130.9	132.4	129.9	131.6
U.S. postal service [2]	431	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3	109.7	110.3
Air transportation [1]	4512,13,22 (pts.)	92.9	92.5	96.9	100.2	105.7	108.6	111.1	111.6	110.7	108.3
Utitlities											
Telephone communications	481	113.3	119.8	127.7	135.5	142.2	148.1	159.5	160.9	170.3	189.1
Radio and television broadcasting	483	104.9	106.1	108.3	106.7	110.1	109.6	105.8	101.1	100.7	101.8
Cable and other pay TV services	484	92.6	87.6	88.5	85.3	83.4	84.5	81.9	84.7	83.5	81.5
Electric utilities	491,3 (pt.)	110.1	113.4	115.2	120.6	126.8	135.0	146.5	150.5	160.1	162.7
Gas utilities	492,3 (pt.)	105.8	109.6	111.1	121.8	125.6	137.1	145.9	158.6	144.4	145.0
Trade											
Lumber and other building materials dealers	521	104.3	102.3	106.4	111.4	118.9	117.8	121.6	121.8	134.2	142.3
Paint, glass, and wallpaper stores	523	106.8	100.4	107.6	114.2	127.8	130.9	133.5	134.8	163.5	163.2
Hardware stores	525	115.3	108.7	115.2	113.9	121.2	115.5	119.5	119.0	137.8	149.3
Retail nurseries, lawn and garden supply stores	526	84.7	89.3	101.2	107.1	117.0	117.4	136.4	127.5	133.7	151.2
Department stores	531	96.8	102.0	105.4	110.4	113.4	115.9	123.5	128.8	135.5	147.4
Variety stores	533	154.4	158.8	173.7	191.5	197.4	211.3	238.4	257.7	268.7	319.5
Miscellaneous general merchandise stores	539	118.6	124.8	140.4	164.2	164.8	167.3	167.6	170.3	185.7	195.2
Grocery stores	541	96.6	96.3	96.5	96.0	95.4	93.9	92.1	91.7	92.2	95.4
Meat and fish (seafood) markets	542	98.9	90.8	99.2	97.7	95.7	94.4	86.4	90.8	95.7	99.3
Retail bakeries	546	91.2	96.7	96.5	86.5	85.3	83.0	75.9	67.6	68.1	83.8
New and used car dealers	551	106.7	104.9	107.4	108.6	109.7	108.1	109.1	108.8	108.7	111.9
Auto and home supply stores	553	103.6	100.2	101.6	100.8	105.3	109.1	108.2	108.1	113.0	116.0
Gasoline service stations	554	103.0	104.8	110.2	115.9	121.1	127.2	126.1	126.1	133.9	140.6
Men's and boy's wear stores	561	115.6	121.9	122.3	119.5	121.8	121.4	129.8	136.3	145.2	154.6
Women's clothing stores	562	106.6	111.2	123.6	130.0	130.4	139.9	154.2	157.3	176.1	190.5
Family clothing stores	565	107.8	111.5	118.6	121.5	127.7	141.8	146.9	150.2	153.1	156.5
Shoe stores	566	107.9	107.8	115.5	117.3	130.7	139.2	151.9	148.4	145.0	151.1
Furniture and homefurnishings stores	571	104.6	105.4	113.9	113.3	114.7	117.4	123.6	124.2	127.2	134.1
Household appliance stores	572	104.3	106.7	115.5	118.0	121.5	138.4	140.7	153.5	181.4	183.9
Radio, television, computer, and music stores	573	121.1	129.8	139.9	154.5	179.1	199.3	208.1	218.4	260.3	314.6
Eating and drinking places	581	104.5	103.8	103.4	103.8	102.1	102.0	100.6	101.6	102.0	104.3
Drug and proprietary stores	591	106.3	108.0	107.6	109.5	109.9	111.1	113.9	119.7	125.6	129.8
Liquor stores	592	105.9	106.9	109.6	101.8	100.1	104.7	113.8	109.9	116.5	114.6
Used merchandise stores	593	103.0	102.3	115.7	116.8	119.5	120.6	132.7	140.3	163.6	181.9
Miscellaneous shopping goods stores	594	107.2	109.0	107.5	111.5	117.1	123.1	125.3	129.1	138.8	145.2
Nonstore retailers	596	111.1	112.5	126.5	132.2	149.0	152.4	173.3	186.5	208.0	222.2
Fuel dealers	598	84.5	85.3	84.2	91.8	99.0	111.4	112.4	109.0	105.8	115.1
Retail stores, n.e.c.	599	114.5	104.0	112.5	118.1	125.8	127.0	140.2	147.8	157.3	161.0
Finance and services											
Commercial banks	602	107.7	110.1	111.0	118.5	121.7	126.4	129.7	133.0	132.6	135.2
Hotels and motels	701	96.2	99.3	108.0	106.5	109.9	110.5	110.0	108.2	111.6	113.5
Laundry, cleaning, and garment services	721	102.3	99.9	99.3	99.9	105.0	106.6	109.8	109.0	116.2	121.8
Photographic studios, portrait	722	98.2	92.1	95.8	101.8	108.3	116.2	110.7	114.1	121.6	105.1
Beauty shops	723	97.5	95.8	100.9	97.0	101.1	104.8	107.6	108.5	110.5	113.3
Barber shops	724	100.7	94.9	113.2	121.9	118.8	115.7	128.8	150.4	157.4	138.0
Funeral services and crematories	726	91.2	89.9	103.8	98.7	104.3	100.2	97.6	101.9	104.2	99.7
Automotive repair shops	753	107.9	100.1	105.1	105.7	114.3	121.6	116.1	117.2	124.9	127.6
Motion picture theaters	783	118.1	118.2	114.8	113.8	110.4	105.0	104.1	103.4	106.1	110.5

[1] Refers to output per employee

[2] Refers to ouput per full-time equivalent employee year on fiscal basis.

n.e.c. = not elsewhere classified

47. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1999				2000			
	1999	2000	I	II	III	IV	I	II	III	IV
United States	4.2	4.0	4.3	4.3	4.2	4.1	4.0	4.0	4.1	4.0
Canada	6.8	5.8	7.1	7.1	6.8	6.2	6.0	5.8	5.8	5.7
Australia	7.2	6.6	7.5	7.4	7.1	7.0	6.8	6.7	6.3	6.5
Japan[1]	4.7	4.8	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.8
France[1]	11.2	9.7	11.4	11.3	11.2	10.8	10.2	9.7	9.6	9.2
Germany[1]	8.7	8.3	8.8	8.8	8.8	8.7	8.4	8.3	8.2	8.1
Italy[1,2]	11.5	10.7	11.8	11.7	11.5	11.2	11.3	10.8	10.6	10.1
Sweden[1]	7.1	5.9	7.1	7.0	7.1	7.1	6.7	6.0	5.6	5.2
United Kingdom[1]	6.1	–	6.2	6.1	5.9	5.9	5.8	5.5	5.4	–

[1] Preliminary for 2000 for Japan, France, Germany (unified), Italy, and Sweden and for 1999 onward for the United Kingdom.

[2] Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France and Germany are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries,1959–2000* (Bureau of Labor Statistics, Mar. 16, 2001).

Dash indicates data not available.

48. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian labor force										
United States[1]	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Canada	14,128	14,168	14,299	14,387	14,500	14,650	14,936	15,216	15,513	15,745
Australia	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347	9,470	9,682
Japan	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990
France	24,470	24,570	24,640	24,780	24,830	25,090	25,210	25,540	25,860	–
Germany[2]	39,130	39,040	39,140	39,210	39,100	39,180	39,480	39,520	39,630	–
Italy	22,940	22,910	22,570	22,450	22,460	22,570	22,680	22,960	23,130	–
Netherlands	6,780	6,940	7,050	7,200	7,230	7,440	7,510	7,670	7,750	–
Sweden	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402	4,430	–
United Kingdom	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,870	29,090	–
Participation rate[3]										
United States[1]	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Canada	66.7	65.9	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9
Australia	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4	64.2	64.7
Japan	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0
France	55.9	55.8	55.6	55.5	55.3	55.5	55.3	55.7	56.0	–
Germany[2]	58.9	58.3	58.0	57.6	57.3	57.4	57.7	57.7	57.9	–
Italy	47.7	47.5	47.9	47.3	47.1	47.1	47.2	47.6	47.8	–
Netherlands	56.8	57.7	58.2	59.0	58.9	60.3	60.6	61.4	61.5	–
Sweden	67.0	65.7	64.5	63.7	64.1	64.0	63.3	62.8	63.2	–
United Kingdom	63.7	63.1	62.8	62.5	62.7	62.7	62.8	62.7	62.9	–
Employed										
United States[1]	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Canada	12,747	12,672	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827
Australia	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597	8,785	9,043
Japan	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,450	63,920	63,790
France	22,120	22,020	21,740	21,730	21,910	21,960	22,090	22,520	22,970	–
Germany[2]	36,920	36,420	36,030	35,890	35,900	35,680	35,570	35,830	36,170	–
Italy	21,360	21,230	20,270	19,940	19,820	19,920	19,990	20,210	20,460	–
Netherlands	6,380	6,540	6,590	6,680	6,730	6,970	7,110	7,360	7,490	–
Sweden	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034	4,117	–
United Kingdom	26,090	25,530	25,340	25,550	26,000	26,280	26,740	27,050	27,330	–
Employment-population ratio[4]										
United States[1]	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Canada	60.2	58.9	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1
Australia	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2	59.6	60.4
Japan	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0
France	50.6	50.0	49.0	48.7	48.8	48.5	48.5	49.1	49.8	–
Germany[2]	55.5	54.4	53.4	52.8	52.6	52.2	52.0	52.3	52.8	–
Italy	44.5	44.0	43.0	42.0	41.5	41.6	41.6	41.9	42.3	–
Netherlands	53.4	54.4	54.4	54.8	54.9	56.5	57.4	58.9	59.4	–
Sweden	64.9	62.0	58.5	57.6	58.3	57.7	56.9	57.6	58.7	–
United Kingdom	58.0	56.7	56.2	56.5	57.2	57.6	58.3	58.7	59.1	–
Unemployed										
United States[1]	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655
Canada	1,381	1,496	1,530	1,359	1,229	1,271	1,230	1,148	1,058	918
Australia	814	925	939	856	766	783	791	750	685	638
Japan	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200
France	2,350	2,550	2,900	3,060	2,920	3,130	3,130	3,020	2,890	–
Germany[2]	2,210	2,620	3,110	3,320	3,200	3,500	3,910	3,690	3,460	–
Italy	1,580	1,680	2,300	2,510	2,640	2,650	2,690	2,750	2,670	–
Netherlands	400	390	460	520	510	470	400	310	260	–
Sweden	144	255	415	426	404	440	445	368	313	–
United Kingdom	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820	1,760	–
Unemployment rate										
United States[1]	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Canada	9.8	10.6	10.7	9.4	8.5	8.7	8.2	7.5	6.8	5.8
Australia	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0	7.2	6.6
Japan	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8
France	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.8	11.2	9.7
Germany[2]	5.6	6.7	7.9	8.5	8.2	8.9	9.9	9.3	8.7	–
Italy	6.9	7.3	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7
Netherlands	5.9	5.6	6.5	7.2	7.1	6.3	5.3	4.0	3.4	–
Sweden	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4	7.1	5.9
United Kingdom	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3	6.1	–

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Data from 1991 onward refer to unified Germany. See *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000*, Mar. 16, 2001, on the Internet at **http://stats.bls.gov/flsdata.htm**.

[3] Labor force as a percent of the working-age population.

[4] Employment as a percent of the working-age population.

NOTE: See Notes on the data for information on breaks in series for the United States, France, Germany, Italy, the Netherlands, and Sweden.

Dash indicates data are not available.

p = preliminary.

49. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998	1999
Output per hour														
United States	–	–	70.5	96.9	95.7	96.9	97.8	102.1	107.3	113.8	117.0	121.1	127.0	134.8
Canada	38.7	56.6	75.1	90.9	93.7	95.7	95.3	104.5	109.9	111.0	109.5	112.8	112.5	115.2
Japan	14.0	38.0	63.9	84.8	89.5	95.4	99.4	100.5	101.8	109.3	115.8	121.4	120.4	124.1
Belgium	18.0	32.9	65.4	92.0	96.9	96.8	99.1	102.5	108.4	113.2	115.5	122.4	123.6	124.5
Denmark	29.9	52.7	90.3	94.1	99.6	99.1	99.6	104.5	–	–	–	–	–	–
France	21.8	43.0	66.5	87.5	91.9	93.5	96.9	100.6	108.5	114.5	115.0	122.6	124.0	128.9
Germany	29.2	52.0	77.2	91.5	94.6	99.0	99.0	101.6	110.1	113.2	116.8	122.4	126.7	128.5
Italy	20.2	37.9	65.9	86.7	89.4	92.5	95.2	102.9	105.6	109.3	109.5	111.5	111.1	112.9
Netherlands	18.6	38.1	69.2	93.7	97.1	98.6	99.6	101.4	112.7	117.7	119.7	125.7	127.8	–
Norway	36.7	57.8	76.7	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.0	103.0	103.9	103.9
Sweden	27.3	52.2	73.1	90.5	93.2	94.6	95.5	107.3	119.4	121.9	124.5	133.0	135.6	139.5
United Kingdom	31.2	44.7	56.1	82.3	86.2	88.3	92.2	104.0	106.8	104.8	103.2	104.0	104.6	109.2
Output														
United States	–	–	75.8	103.2	102.4	101.6	98.3	103.5	111.1	118.4	121.3	127.7	133.5	139.3
Canada	34.2	60.6	86.0	110.1	112.6	108.6	99.0	104.6	113.2	118.1	119.8	128.1	133.1	141.3
Japan	10.7	38.8	59.9	84.6	90.2	96.3	101.4	96.0	95.4	100.6	106.7	111.1	103.6	103.9
Belgium	30.7	57.6	78.2	93.3	99.1	101.0	100.7	97.0	101.4	104.2	105.1	109.9	111.8	113.8
Denmark	40.8	68.0	91.3	100.8	104.3	102.7	101.7	99.0	109.3	114.7	109.7	112.6	115.3	111.5
France	31.0	64.1	88.7	92.2	97.2	99.1	99.8	95.7	100.3	104.9	104.6	109.7	111.5	114.2
Germany	41.5	70.9	85.3	90.9	94.0	99.1	102.3	92.5	95.2	95.3	93.5	96.3	100.9	102.2
Italy	21.9	45.8	80.4	94.5	98.1	99.6	99.2	96.4	102.2	107.2	105.6	108.3	110.3	111.4
Netherlands	31.7	59.5	77.4	92.8	96.9	100.1	100.6	98.2	104.2	107.8	108.4	114.1	116.6	–
Norway	56.5	89.1	103.6	105.3	101.3	100.2	98.3	102.7	106.7	109.0	110.1	115.7	117.6	114.0
Sweden	45.9	80.7	90.7	109.8	110.9	110.1	104.1	101.9	117.1	128.4	131.1	138.6	144.6	150.7
United Kingdom	67.7	90.3	87.2	101.4	105.4	105.3	100.0	101.4	106.1	107.8	108.2	109.6	109.9	109.7
Total hours														
United States	92.1	104.4	107.5	106.6	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.5	105.2	103.3
Canada	88.3	107.1	114.6	121.2	120.2	113.5	103.9	100.1	103.0	106.4	109.4	113.5	118.3	122.7
Japan	76.3	102.3	93.8	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.5	86.1	83.8
Belgium	170.7	174.7	119.7	101.5	102.3	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.5	91.5
Denmark	136.5	129.0	101.1	107.2	104.7	103.7	102.1	94.8	–	–	–	–	–	–
France	142.3	149.0	133.3	105.4	105.8	105.9	103.0	95.1	92.4	91.6	91.0	89.5	89.9	88.6
Germany	142.3	136.3	110.5	99.3	99.3	100.1	103.3	91.0	86.5	84.2	80.1	78.7	79.6	79.5
Italy	108.7	120.9	122.0	108.9	109.7	107.7	104.2	93.6	96.7	98.0	96.5	97.1	99.3	98.6
Netherlands	170.6	156.2	111.8	99.0	99.8	101.5	101.0	96.9	92.4	91.6	90.5	90.8	91.2	–
Norway	154.0	154.3	135.0	114.3	107.1	103.7	100.8	102.1	105.2	106.9	107.9	112.3	113.2	109.8
Sweden	168.3	154.7	124.0	121.4	119.0	116.4	109.0	94.9	98.1	105.3	105.3	104.2	106.6	108.0
United Kingdom	217.3	202.1	155.3	123.2	122.3	119.2	108.5	97.5	99.4	102.9	104.8	105.4	105.0	100.5
Compensation per hour														
United States	14.9	23.7	55.6	84.0	86.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	123.2
Canada	9.9	17.0	47.7	77.8	82.5	89.5	94.7	99.6	100.4	103.6	102.8	106.7	110.8	110.8
Japan	4.3	16.5	58.6	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.9	113.9	115.8	117.7
Belgium	5.4	13.7	52.5	81.1	85.9	90.1	97.3	104.8	106.1	109.2	112.0	115.2	116.0	116.0
Denmark	4.6	13.3	49.6	82.9	87.7	92.7	95.9	104.6	–	–	–	–	–	–
France	4.3	10.3	40.8	81.6	86.0	90.6	96.2	103.0	105.6	108.4	110.2	113.0	114.9	119.3
Germany	8.1	20.7	53.6	79.1	83.2	89.4	92.1	106.1	112.3	118.5	125.2	128.0	128.9	130.8
Italy	1.6	4.7	28.4	69.3	75.9	84.4	93.6	107.5	107.8	112.8	120.3	125.4	123.0	126.5
Netherlands	6.4	20.2	64.4	87.7	88.5	90.8	95.2	103.7	108.2	110.6	113.2	115.8	118.3	–
Norway	4.7	11.8	39.0	83.3	87.2	92.3	97.5	101.5	104.4	109.2	113.6	118.7	126.2	133.4
Sweden	4.1	10.7	37.3	71.8	79.4	87.8	95.5	97.2	99.8	106.3	114.2	119.7	123.3	127.4
United Kingdom	3.1	6.3	33.2	67.7	72.9	80.9	90.5	104.3	106.5	107.4	108.2	111.4	117.0	122.6
Unit labor costs: National currency basis														
United States	–	–	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada	25.6	30.1	63.2	85.2	88.0	92.3	99.7	97.6	94.3	95.5	95.9	95.9	98.8	98.1
Japan	30.9	43.3	91.7	93.4	94.0	95.0	96.5	104.1	104.9	100.1	95.8	93.8	96.2	94.9
Belgium	30.1	41.7	80.3	88.1	88.7	93.0	98.1	102.3	97.9	96.4	95.6	93.3	93.7	93.4
Denmark	15.4	25.2	55.0	88.2	88.1	93.6	96.3	100.1	93.0	93.8	100.9	102.0	102.8	108.9
France	19.5	24.0	61.3	93.3	93.6	96.8	99.3	102.4	97.3	94.7	95.9	92.2	92.7	92.6
Germany	27.8	39.8	69.4	86.5	87.9	90.3	93.1	104.5	102.0	104.7	107.2	104.6	101.8	101.8
Italy	7.9	12.4	43.1	79.9	84.9	91.3	98.4	104.4	102.1	103.2	109.9	112.4	110.8	112.0
Netherlands	34.4	52.9	93.0	93.6	91.1	92.1	95.5	102.3	96.0	94.0	94.6	92.2	92.5	–
Norway	12.9	20.4	50.8	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.4	115.2	121.5	128.5
Sweden	15.0	20.6	51.0	79.4	85.1	92.8	100.0	90.6	83.6	87.2	91.7	90.0	90.9	91.3
United Kingdom	9.8	14.1	59.1	82.2	84.6	91.6	98.2	100.3	99.7	102.5	104.8	107.1	111.9	112.3
Unit labor costs: U.S. dollar basis														
United States	–	–	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada	32.0	34.8	65.3	83.6	89.8	95.6	105.1	91.4	83.4	84.1	85.0	83.6	80.5	79.8
Japan	10.9	15.3	51.3	92.4	86.3	83.1	90.9	118.8	130.1	135.1	111.7	98.3	93.1	105.7
Belgium	19.4	27.0	88.3	77.0	72.3	89.5	92.3	95.1	94.2	105.2	99.3	83.7	83.0	79.3
Denmark	13.5	20.3	58.9	79.0	72.6	91.3	90.8	93.2	88.3	101.1	105.0	93.1	92.6	94.1
France	21.1	23.0	76.8	82.9	77.6	94.1	93.1	95.6	92.9	100.6	99.2	83.6	83.2	79.6
Germany	10.4	17.1	59.6	76.9	73.0	87.3	87.5	98.6	98.2	114.1	111.3	94.1	90.3	86.6
Italy	15.6	24.4	62.0	75.6	76.2	93.8	97.6	81.8	78.1	78.0	87.8	81.3	78.6	75.9
Netherlands	16.0	25.7	82.3	83.2	75.5	88.9	89.8	96.8	92.8	103.0	98.6	83.0	82.0	–
Norway	11.3	17.8	63.9	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.1	101.1	100.0	102.2
Sweden	16.9	23.1	70.3	75.4	76.8	91.3	96.3	67.7	63.1	71.2	79.7	68.6	66.6	64.3
United Kingdom	15.6	19.2	77.8	82.9	78.5	92.5	98.2	85.3	86.5	91.6	92.6	99.3	105.0	102.8

NOTE: Data for Germany for years before 1992 are for the former West Germany. Data for 1992 onward are for unified Germany. Dash indicates data not available.

50. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]
PRIVATE SECTOR[5]												
Total cases	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3
Lost workday cases	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0
Lost workdays	76.1	78.7	84.0	86.5	93.8	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3
Lost workday cases	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4
Lost workdays	101.8	100.9	112.2	108.3	126.9	–	–	–	–	–	–	–
Mining												
Total cases	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4
Lost workday cases	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7
Lost workdays	152.1	137.2	119.5	129.6	204.7	–	–	–	–	–	–	–
Construction												
Total cases	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6
Lost workday cases	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2
Lost workdays	142.2	143.3	147.9	148.1	161.9	–	–	–	–	–	–	–
General building contractors:												
Total cases	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0
Lost workday cases	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7
Lost workdays	132.2	137.3	137.6	132.0	142.7	–	–	–	–	–	–	–
Heavy construction, except building:												
Total cases	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8
Lost workday cases	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8
Lost workdays	162.3	147.1	144.6	160.1	165.8	–	–	–	–	–	–	–
Special trades contractors:												
Total cases	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9
Lost workday cases	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4
Lost workdays	141.1	144.9	153.1	151.3	168.3	–	–	–	–	–	–	–
Manufacturing												
Total cases	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2
Lost workday cases	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6
Lost workdays	107.4	113.0	120.7	121.5	124.6	–	–	–	–	–	–	–
Durable goods:												
Total cases	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1
Lost workday cases	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8
Lost workdays	111.1	116.5	123.3	122.9	126.7	–	–	–	–	–	–	–
Lumber and wood products:												
Total cases	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0
Lost workday cases	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7
Lost workdays	189.1	177.5	172.5	172.0	165.8	–	–	–	–	–	–	–
Furniture and fixtures:												
Total cases	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5
Lost workday cases	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9
Lost workdays	115.7	–	–	–	128.4	–	–	–	–	–	–	–
Stone, clay, and glass products:												
Total cases	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7
Lost workday cases	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4
Lost workdays	141.0	149.8	160.5	156.0	152.2	–	–	–	–	–	–	–
Primary metal industries:												
Total cases	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9
Lost workday cases	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3
Lost workdays	161.3	168.3	180.2	169.1	175.5	–	–	–	–	–	–	–
Fabricated metal products:												
Total cases	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6
Lost workday cases	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0
Lost workdays	138.8	147.6	155.7	146.6	144.0	–	–	–	–	–	–	–
Industrial machinery and equipment:												
Total cases	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5
Lost workday cases	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7
Lost workdays	82.8	86.8	88.9	86.6	87.7	–	–	–	–	–	–	–
Electronic and other electrical equipment:												
Total cases	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7
Lost workday cases	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8
Lost workdays	64.6	77.5	79.4	83.0	81.2	–	–	–	–	–	–	–
Transportation equipment:												
Total cases	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7
Lost workday cases	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4
Lost workdays	134.2	138.6	153.7	166.1	186.6	–	–	–	–	–	–	–
Instruments and related products:												
Total cases	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0
Lost workday cases	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8
Lost workdays	51.5	55.4	57.8	64.4	65.3	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4
Lost workday cases	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0
Lost workdays	91.0	97.6	113.1	104.0	108.2	–	–	–	–	–	–	–

See footnotes at end of table.

50. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]
Nondurable goods:												
Total cases	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8
Lost workday cases	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2
Lost workdays	101.7	107.8	116.9	119.7	121.8	–	–	–	–	–	–	–
Food and kindred products:												
Total cases	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7
Lost workday cases	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3
Lost workdays	169.7	174.7	202.6	207.2	211.9	–	–	–	–	–	–	–
Tobacco products:												
Total cases	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5
Lost workday cases	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2
Lost workdays	53.0	64.2	62.3	52.0	42.9	–	–	–	–	–	–	–
Textile mill products:												
Total cases	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4
Lost workday cases	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2
Lost workdays	78.8	81.4	85.1	88.3	87.1	–	–	–	–	–	–	–
Apparel and other textile products:												
Total cases	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8
Lost workday cases	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8
Lost workdays	68.2	80.5	92.1	99.9	104.6	–	–	–	–	–	–	–
Paper and allied products:												
Total cases	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0
Lost workday cases	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7
Lost workdays	124.3	132.9	124.8	122.7	125.9	–	–	–	–	–	–	–
Printing and publishing:												
Total cases	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0
Lost workday cases	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6
Lost workdays	59.8	63.8	69.8	74.5	74.8	–	–	–	–	–	–	–
Chemicals and allied products:												
Total cases	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4
Lost workday cases	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3
Lost workdays	59.0	63.4	61.6	62.4	64.2	–	–	–	–	–	–	–
Petroleum and coal products:												
Total cases	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1
Lost workday cases	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8
Lost workdays	68.4	68.1	77.3	68.2	71.2	–	–	–	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1
Lost workday cases	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5
Lost workdays	142.9	147.2	151.3	150.9	153.3	–	–	–	–	–	–	–
Leather and leather products:												
Total cases	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3
Lost workday cases	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0
Lost workdays	128.2	130.4	152.3	140.8	128.5	–	–	–	–	–	–	–
Transportation and public utilities												
Total cases	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3
Lost workday cases	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4
Lost workdays	118.6	121.5	134.1	140.0	144.0	–	–	–	–	–	–	–
Wholesale and retail trade												
Total cases	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1
Lost workday cases	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7
Lost workdays	60.9	63.5	65.6	72.0	80.1	–	–	–	–	–	–	–
Wholesale trade:												
Total cases	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3
Lost workday cases	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3
Lost workdays	69.2	71.9	71.5	79.2	82.4	–	–	–	–	–	–	–
Retail trade:												
Total cases	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1
Lost workday cases	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5
Lost workdays	57.6	60.0	63.2	69.1	79.2	–	–	–	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8
Lost workday cases	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8
Lost workdays	17.2	17.6	27.3	24.1	32.9	–	–	–	–	–	–	–
Services												
Total cases	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9
Lost workday cases	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2
Lost workdays	47.7	51.2	56.4	60.0	68.6	–	–	–	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;

EH = total hours worked by all employees during the calendar year; and

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

Dash indicates data not available.

51. Fatal occupational injuries by event or exposure, 1994-2000

Event or exposure[1]	Fatalities			
	1994-98	1999[2]	2000	
	Average	Number	Number	Percent
Total	6,280	6,054	5,915	100
Transportation incidents	2,640	2,618	2,571	43
Highway incident	1,374	1,496	1,363	23
Collision between vehicles, mobile equipment	662	714	694	12
Moving in same direction	113	129	136	2
Moving in opposite directions, oncoming	240	270	243	4
Moving in intersection	136	161	153	3
Vehicle struck stationary object or equipment	272	334	279	5
Noncollision incident	368	390	356	6
Jackknifed or overturned—no collision	280	322	304	5
Nonhighway (farm, industrial premises) incident	387	352	399	7
Overturned	215	206	213	4
Aircraft	304	228	280	5
Worker struck by a vehicle	382	377	370	6
Water vehicle incident	104	102	84	1
Railway	78	56	71	1
Assaults and violent acts	1,168	909	929	16
Homicides	923	651	677	11
Shooting	748	509	533	9
Stabbing	68	62	66	1
Other, including bombing	107	80	78	1
Self-inflicted injuries	215	218	220	4
Contact with objects and equipment	984	1,030	1,005	17
Struck by object	564	585	570	10
Struck by falling object	364	358	357	6
Struck by flying object	60	55	61	1
Caught in or compressed by equipment or objects	281	302	294	5
Caught in running equipment or machinery	148	163	157	3
Caught in or crushed in collapsing materials	124	129	123	2
Falls	686	721	734	12
Fall to lower level	609	634	659	11
Fall from ladder	101	96	110	2
Fall from roof	146	153	150	3
Fall from scaffold, staging	89	92	85	2
Fall on same level	53	70	56	1
Exposure to harmful substances or environments	583	533	480	8
Contact with electric current	322	280	256	4
Contact with overhead power lines	136	125	128	2
Contact with temperature extremes	45	51	29	–
Exposure to caustic, noxious, or allergenic substances	118	108	100	2
Inhalation of substances	66	55	48	1
Oxygen deficiency	96	92	93	2
Drowning, submersion	77	75	74	1
Fires and explosions	199	216	177	3
Other events or exposures[3]	21	27	19	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued August 17, 2000, reported a total of 6,023 fatal work injuries for calendar year 1999. Since then, an additional 31 job-related fatalities were identified, bringing the total job-related fatality count for 1999 to 6,054.

[3] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.

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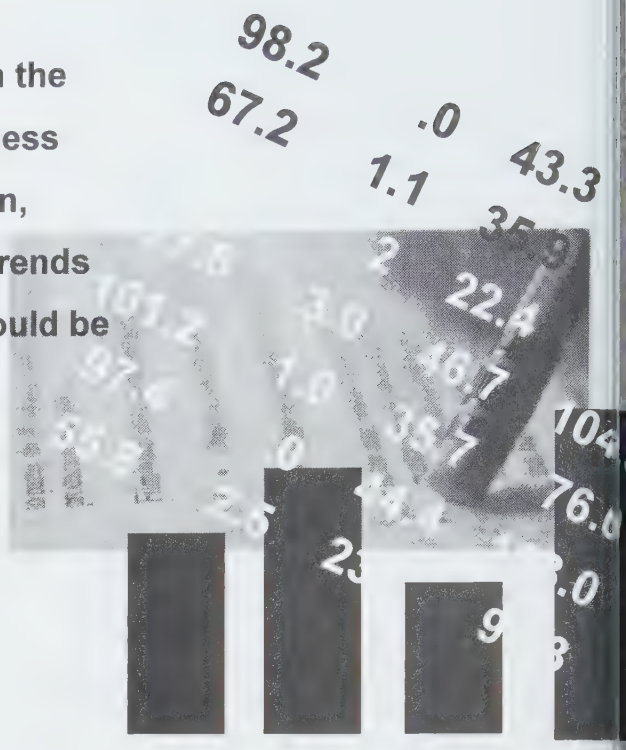

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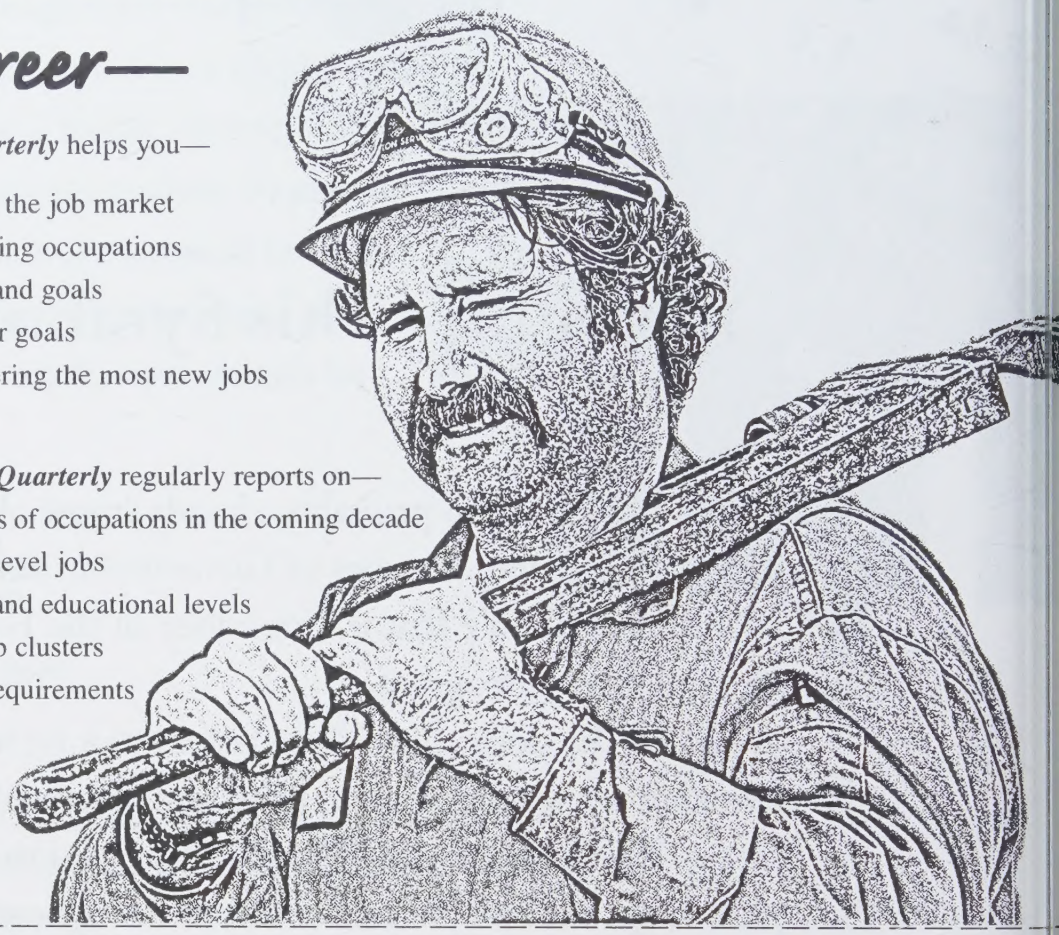

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	March 7	4th quarter		March	May 7	1st quarter	1; 4–24
Productivity and costs	March 8	February	April 5	March	May 3	April	2; 43–46
U.S. Import and Export Price Indexes	March 14	February	April 11	March	May 9	April	38–42
Producer Price Indexes	March 15	February	April 12	March	May 10	April	2; 35–37
Consumer Price indexes	March 21	February	April 16	March	May 15	April	2; 32–34
Real earnings	March 21	February	April 16	March	May 15	April	14, 16
Employment Cost Indexes			April 25	1st quarter			1–3; 25–28